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THE
AMERICAN JOURNAL
OF THE
MEDICAL SCIENCES.

EDITED BY

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TO READERS AND CORRESPONDENTS.

Communications have been received from Drs. Atlee, Nott, Houston, Sims and Earle, which shall receive early attention.

Notices of several works have been unavoidably postponed, for which we must beg the indulgence of the authors.

The following works have been received:—

The Cyclopedia of Practical Medicine. Edited by Drs. Forbes, Tweedie and Conolly. Revised by Dr. Dunglison. Philadelphia, Lea & Blanchard, 1844; Pts. 15, 16, 17, 18 & 19. (From the publishers.)

A Dictionary of Practical Medicine, comprising General Pathology, the Nature and Treatment of Diseases, &c. &c. By James Copland, M.D., F.R.S. Edited, with additions, by Charles A. Lee, M.D. New York, Henry G. Langley, 1844, Pt. 1. (From the publishers.)

The Diseases of Females, including those of Pregnancy and Childbed. By Fleetwood Churchill, M.D., &c. &c. Third American edition, with illustrations. With Notes by Robert M. Huston, M.D., &c. &c. Philadelphia, Lea & Blanchard, 1844. (From the publishers.)

Medical Jurisprudence. By Alfred S. Taylor. With numerous Notes and Additions, and References to American Practice of Law. By R. E. Griffith, M.D. 1 vol. 8vo. Philadelphia, Lea & Blanchard, 1845. (From the publishers.)

On the Structure and Diseases of the Testis. By Bransby B. Cooper, Esq. 1 vol. 8vo. Philadelphia, Lea & Blanchard, 1845. (From the publishers.)

A Treatise on the Diseases of the Respiratory Organs, &c. By Charles J. B. Williams, M.D., &c. &c. With numerous Additions and Notes. By Meredith Clymer, M.D., &c. &c. 1 vol. 8vo. Philadelphia, Lea & Blanchard, 1845. (From the publishers.)

Enchiridion Medicum; or, the Practice of Medicine. The result of fifty years' experience. By C. W. Hufeland, Prof. in the University of Berlin, &c. From the sixth German edition. Translated by Caspar Bruchhausen, M.S. Revised for the proprietor by Rober Wilson, M.D. New York, Wm. Radde, 1844. (From the publishers.)

Die Neuesten Entdeckungen in der Materia Medica. Für praktische Aerzte geordnet von Dr. J. H. Dierbach, ausser-ordentlichem, Professor der Medicin zu Heidelberg. Zweiter Band. Heidelberg und Leipzig, 1843. (From Dr. Oppenheim.)

Ph. Car. Hartmann Institutiones Medico-Practicæ. Pars 1. Doctrinam de Febribus cotinens. Viennæ, Austriæ, 1843. (From Dr. Oppenheim.)

Curtii Sprengelii Opuscula Academica. Lipsiæ, 1844.

Abriss der anorganischen Chemie, bearbeitet von A. Jahn. Dresden, 1843. (From Dr. Oppenheim.)

Thèse pour le Doctorat en Chirurgie, présentée et soutenue, le 26 Juin, 1844. Par J. V. Bodinier. Du choix d'une méthode pour l'opération de la cataracte. Paris, 1844. (From the author.)

Thèse pour le Doctorat en Médecine, présentée et soutenue, le 14 Juin, 1844. Par J. V. Bodinier. Quelques Reflexions sur l'importance de l'etude des Maladies de l'oreille et de l'eczema de cette region. Paris, 1844. (From the author.)

The Twentieth Annual Report of the Officers of the Retreat for the Insane at Hartford. Hartford, 1844. (From Dr. Butler.)

Report of the Superintendent of the Boston Lunatic Asylum and Physician of the Public Institutions at South Boston. July 1, 1844. (From Dr. Stedman.)

Eighth Annual Report of the Trustees and Superintendent of the Vermont Asylum for the Insane. (From Dr. Rockwell.)

Address delivered before the Medical Association of Fayette County, Pa., at its organization, June 25th, 1844. By H. Campbell, M. D., of Uniontown, Pa. Published by the request of the Association. 1844. (From the author.)

Fifth Annual Report of the Directors and Superintendent of the Ohio Lunatic Asylum, to the Forty-second General Assembly, December 13, 1843. Columbus, 1843. (From Dr. Awl.)

An Introductory Discourse on Medical Education, delivered to the Students of Geneva Medical College, Oct. 1, 1844. By Charles A. Lee, A.M., M.D. Geneva, 1844. (From the author.)

Lecture Introductory to the course of Medical Chemistry in the Medical Department of Pennsylvania College, Philadelphia, for the session 1844–45. By Washington L. Atlee, M. D. Philadelphia, 1844. (From the author.)

A Practical Inquiry into the Value of Medicinal Naphtha in Tubercular Phthisis. By Ed. O. Hocken, M. D., F. R. Med. Chir. So., &c. &c. &c. London, 1844. (From the author.)

Introductory Lecture before the Medical Class of the University of Pennsylvania, delivered Nov. 4th, 1844. By William Gibson, M. D., Professor of Surgery. Philadelphia, 1844. (From the author.)

Introductory Lecture before the Willoughby University. By Prof. H. H. Childs, of Massachusetts. (From the author.)

Introductory Lecture to the Course of Chemistry, delivered in Jefferson Medical College, Nov. 6, 1844. By Franklin Bache, M. D. Published by the Class. Philadelphia, 1844. (From the author.)

Lecture Introductory to the Course of Theory and Practice of Medicine in the Medical Department of Pennsylvania College, Philadelphia. For the session 1844–45. By William Darrach, M. D. Published by the Members of the Class. Philadelphia, 1844. (From the author.)

Elements of Materia Medica and Therapeutics. By John P. Harrison, M. D., Prof. of Materia Medica and Therapeutics in the Medical College of Ohio. Vol. I. Cincinnati, 1845. (From the author.)

Provincial Medical and Surgical Journal, for August, September, October, Nov., 1844. (In exchange.)

London Medical Gazette, for August, September, October, November, 1844. (In exchange.)

The Medical Times, for September, October, November, 1844. (In exchange.)

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The Medico-Chirurgical Review, for Oct., 1844. (In exchange.)

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Guy's Hospital Reports, for Oct., 1844. (In exchange.)

The London and Edinburgh Monthly Journal of Medical Science, for Sept. and Oct., 1844. (In exchange.)

The Dublin Medical Press, for Sept., Oct., Nov., 1844. (In exchange.)

Revue Médicale Française et Etrangere, Journal des Progres de la Medecine Hippocratique, for January, February, March, April, May, June, July, 1844. (In exchange.)

Journal des Connaissances Médicales pratiques et de Pharmacologie: for February, March, April, May, June, July, August, 1844. (In exchange.)

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Journal de Médecine et de Chirurgie pratiques, for February, March, April, May, June, July, August, 1844. (In exchange.)

Gazette Médicale de Paris, for February, March, April, May, June, July, Aug., 1844. (In exchange.)

L'Experience, Journal de Médecine et de Chirurgie, for February, March, April, June, July, August, 1844. (In exchange.)

Annales de Thérapeutique Médicale et Chirurgicale et de Toxicologie, for March, April, May, June, July, August, September, 1844. (In exchange.)

Journal de Pharmacie et de Chimie, for January, February, March, April, May, June, July, August, 1844. (In exchange.)

Zeitschrift für die gesammte Medicin; herausgegeben von F. W. Oppenheim. for August, September, 1844. (In exchange.)

Magazin für die Staatsarzneikunde; herausgegeben, Dr. F. J. Siebenhaar, und Dr. R. J. A. Martine, Leepzig, 1844. Bd. 3. Hi. i. (In exchange.)

Archief voor Geneeskund, Dr. J. P. Heige, Amsterdam, 1844. (Dr. Oppenheim.)

The Western Journal of Medicine and Surgery, for October, November and December, 1844. (In exchange.)

The Western Lancet, for September, October and November, 1844. (In exchange.)

The Boston Medical and Surgical Journal, for October, November and December, 1844. (In exchange.)

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The Bulletin of Medical Science, for October and Nov., 1844. (In exchange.)

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The American Journal of Insanity, for Oct., 1844. (In exchange.)

The American Journal of Pharmacy, published by authority of the Philadelphia College of Pharmacy, for Oct., 1844. (In exchange.)

The New Orleans Medical Journal, for Oct., 1844. (In exchange.)

The St. Louis Medical and Surgical Journal, for Nov., 1844. (In exchange.)

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All remittances of money, and letters on the *business* of the Journal, should be addressed *exclusively* to the publishers, Messrs. Lea & Blanchard.

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FOR JANUARY, 1845.

Art. I.—*Cases of Strangulated Hernia, with some remarks principally intended to show the necessity of an early resort to the operation.* By John C. Warren, M. D., Professor of Anatomy and Operative Surgery in Harvard University, Boston.

The time, after strangulation, at which the operation for strangulated hernia should be performed, is not satisfactorily settled. Many practitioners, before resorting to it, employ various other measures, and frequently repeat them, until the patient's strength appears to be failing, and it becomes obvious he must perish unless relieved by the knife of the surgeon.

This was my own course, when I first began to operate for strangulated hernia in Boston, about the years 1803 and 1804. This operation had then never been performed here, so far as I can ascertain, or, at least, had never been successfully performed. Physicians were, therefore, at that time unwilling to advise an operation which appeared to them to be a novelty, and patients were slow in consenting to submit to it. The period of the operation was, for these reasons, in many instances, postponed too long, and notwithstanding the utmost efforts by taxis, a number of unsuccessful cases necessarily followed. Having noticed this, I endeavoured, from time to time, to impress on the minds of those with whom I had occasion to consult, the importance of an early resort to the operation. This doctrine has proved so successful here that most physicians in this place recommend the operation and most patients are now willing to submit to it, immediately after the common means have been found unavailing. The results of this change of practice are so successful, that, in my own experience, I am not able to discover more than a single instance of unfavourable termination within the last six years, and this took place in a man who was not operated on for more than three days after strangulation, whose case is alluded to hereafter.

In order to give some of the results of my experience as to the utility of this practice, I have thought it might be useful to present the following cases. They may also do something towards the illustration of other points of hernial pathology and practice, especially these: first, the situation of the stricture, whether in the abdominal ring or the neck of the hernial sac; second, the simulation of strangulated hernia by peritoneal inflammation in the sac and its vicinity; third, the practicability and utility of dividing the stricture, and reducing the hernia without opening the hernial sac; fourth, the possibility of conducting the subsequent treatment, so as to give the patient some security against the return of the rupture after his recovery from the operation. I would have it understood, that it is not my intention to present a statistical record, but rather to bring forward a few cases in detail, calculated, so far as they go, to explain the manner in which I have treated this affection, and also to touch upon the points above mentioned.

The first case, which we shall now record, illustrates, firstly, the advantages of an early operation; secondly, the seat of the stricture; thirdly, the practicability of dividing the abdominal ring without opening the sac; fourthly, the practicability of returning the hernia without opening the sac.

Case I. *Strangulated Inguinal Hernia reduced by an operation without opening the hernial sac.*—A gentleman of Boston, aged 76, who had had a hernia for a great number of years, was attacked in June, 1824, with symptoms of strangulation. The hernia had been a reducible one, and had repeatedly been strangulated. The size of the tumour was large, being as much as seven inches long, and of proportionate diameter.

On the occurrence of strangulation at this time, the taxis having proved ineffectual, the patient took first a common injection, then a warm bath, and afterwards had leeches applied, followed by cold applications: the treatment of the day was concluded by putting him under a very large dose of opium. On the next day, the hernia continuing in the same state, pressure to reduce it was once more tried, and the patient placed in different positions to aid it. He now began to vomit, and was in considerable distress; I therefore determined to do the operation as soon as his consent could be obtained. The operation was performed thirty hours after strangulation.

An incision, four inches long, was carried from a point an inch above the abdominal ring to the upper part of the tumour; the external fascia was dissected, the tendon of the external oblique muscle exposed, and a small puncture being made in the fascia below the ring, the point of a director was passed into this passage, and the ring dilated without opening the sac. Pressure was now applied to the rupture, which seemed to consist principally of intestine, and the contents of the tumour were returned into the cavity of the abdomen. The wound was brought together, united by the first intention, and the patient was well in a few days.

He lived a number of years after, and had no further trouble with his rupture, although it continued to descend.

Case II. *Strangulated Crural Hernia; operation twenty-four hours after strangulation; discharges of blood from the wound eleven days after the operation; discharges of blood from the vagina twenty days after the operation: recovery.*—A lady, 82 years of age, subject for some years to crural hernia of the right side, was attacked, on the 17th of Nov., 1838, with symptoms of strangulation. She had pain in the tumour, a sense of stricture, as of a cord extending from the stomach to the right groin, vomiting and obstinate constipation.

Her physician, Dr. Homans, employed taxis, used active injections, which were returned with a small portion of fæces, and gave a purgative of castor oil, which was thrown off. Cold applications were then made to the tumour; these were continued from the evening of the 17th to that of the 18th, without effect. At this time I was desired to visit her in consultation.

I found the patient suffering considerable pain in the tumour, and in the abdomen generally; the latter was tender and somewhat swelled; the pulse was quick; she exhibited much restlessness and anxiety. Placing her on the right edge of her bed, the right knee being elevated and supported, I proceeded to make pressure on the tumour. This tumour was about three inches in diameter, situated at the upper and inner part of the thigh, principally below Poupart's ligament, though part of it rose above. It was tender, as before stated, and elastic, appearing to be composed mostly of intestine. The pressure was continued for some time, and varied as to its direction, so as to give every possible chance of reduction, if pressure could reduce it. After efforts continued for ten or fifteen minutes, I judged it to be impracticable to effect the reduction in this way, and advised an operation without further delay. This being agreed to, was immediately performed at 8 o'clock on the evening of the 10th of November, twenty-four hours after the attack, in company with Dr. Homans and Dr. Mason Warren.

The patient was placed, as before mentioned, on the right edge of the bed; an incision, three inches long, was made over the middle of the tumour. The coverings of the sac were very thin; the sac itself was exposed and opened in two or three minutes; the contents were found to be intestine with a small portion of omentum. The stricture being sought for, an obstacle to its discovery was found to exist in a portion of fascia, which covered over and extended on to the neck of the sac, probably the cribriform process of the fascia lata constituting a lower or outer ring. This fascia was divided by introducing the nail under its edge, and following the nail by the probe-pointed bistoury. The aperture of the upper or inner ring was then reached at the posterior and inferior edge of the oblique muscle, which was incised.*

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* In the operation for crural hernia, I have almost always relieved the stricture by cutting the ligament of Gimbernat at the inner part of the sac; but in this case the stricture was more distinctly perceived at the anterior part of the neck of the sac; this part was, therefore, divided, instead of making a search for the ligament of Gimbernat.

The hernia was now readily returned, and immediately the motion of air through the intestines was heard. Two sutures were made in the integuments, and a bandage with compresses carefully applied. In twenty minutes the patient had an evacuation from the bowels. She passed a comfortable night, and on the following morning, took a cathartic of senna, which effectually relieved her.

The principal part of the wound united by the first intention; its inferior angle continued open. She had no unpleasant symptoms until the eleventh day after the operation, when a copious venous hemorrhage occurred from the lower part of the wound. Cold spirituous applications, with compression, were made over the wound, and the pulse not being accelerated, cordials were administered internally. After three days of hemorrhage and great consequent prostration of strength, the discharge ceased. After this she continued to convalesce till the 10th of December, when, without any precursory symptoms, she had a considerable flow of dark-coloured blood from the vagina, by which she was extremely prostrated. On examination, nothing extraordinary could be discovered in this part or in the uterus. Cold astringent injections were used, and she took astringents by the mouth. The hemorrhage ceased as suddenly as it appeared, and she had no recurrence of it.

From this time her recovery was regular, though she kept house through the winter. In the following summer I saw her walking in the street, and at this time, Oct., 1844, she still retains her health.

Case III. *Strangulated Inguinal Hernia; operation twenty-four hours after strangulation; stricture dilated by a small incision, and the hernia returned without opening the sac: recovery.*—Samuel Hoit, a sailor, single, 32 years of age, was admitted to the Massachusetts General Hospital, on April 10th, 1842, for strangulated inguinal hernia. The hernia had existed about fifteen months; it had occasionally descended, and been reduced without much difficulty; but about half-past four in the afternoon of April 9th, being in the cars coming from New Bedford to Boston, the hernia descended, and every effort at its reduction for eighteen hours having proved unsuccessful, he was taken to the hospital.

On examination, there appeared over Poupart's ligament a superficial excoriation, covering a space an inch and a half by an inch in extent, beneath which the skin and cellular substance were so hardened as to render it impossible to feel the external ring, the effect of a truss with a wooden pad, which he had recently worn. In the right side of the scrotum was a swelling about four inches long, compressible, not translucent, very tender.

Taxis was tried, but without effect; he was then placed in a bath as hot as he could bear it; in this situation he was bled twenty-four ounces; an enema of soap and water was afterwards administered. As these measures were not attended with success, the operation was agreed upon and performed at half-past four in the afternoon, twenty-four hours after the strangulation, and six after his entrance to the hospital.

Much having been said about a subcutaneous operation for strangulated hernia, I thought it might be well to attempt it in this case. Accordingly a very small incision was made a little below the abdominal ring, of a size sufficient to admit a director. This being passed into the incision, preparatory to the use of the knife, an attempt was made to insinuate it from below upwards through the fascia into the abdominal ring; but I immediately perceived that the attainment of this object was not without difficulty and danger, as a very delicate movement of the knife was to be made without the aid of either the touch or the sight. This plan was, therefore, at once relinquished, and I made an incision, three inches long, through the skin and cellular membrane down to the fascia of the oblique muscle. This fascia being opened below the abdominal ring, a director was passed upwards into the ring, which was dilated by a probe-pointed bistoury sufficiently to allow the return of the hernia without opening the sac.

The patient expressed himself as at once relieved from the general griping pains in the abdomen; and in half an hour after the operation he had a copious evacuation spontaneously. The wound was brought together by suture, covered with lint, which was kept in place by a T bandage. No bad symptoms appeared subsequently, and he recovered rapidly from the effects of the operation.*

Remarks.—The great advantages which have been derived from the subcutaneous mode of doing certain operations, have led to a proposal for its employment in the operation of strangulated hernia. If the sac could safely be opened, the stricture satisfactorily divided, and the hernia perfectly reduced by a mere subcutaneous cut, a great improvement would indeed be obtained by the introduction of this way of operating. But if, to avoid an incision of three or four inches in skin and cellular texture, we must run considerable risk of puncturing the hernial contents by a blind subcutaneous incision, then this proposal would not seem to merit an introduction into practice. Besides the danger of puncturing the hernial contents, there would in some cases be danger of returning a gangrenous intestine. These objections to the proposed method of operating, without looking for others, seem to me quite sufficient. I know that it has been successfully performed; but a few instances of success would not weigh much in my mind against the objections alluded to.

CASE IV. *Strangulated Inguinal Hernia: attempt at reduction by posture and copious bleeding: operation in six hours after strangulation: rapid recovery.*—This patient, aged 24 years, belonging to the town of Nashua, N. H., was brought into the Massachusetts General Hospital on the 9th of June, 1843, during the surgical visit. He was affected with strangulated inguinal hernia, and was suffering very severe pain.

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* This man, about four weeks after the operation, died of accidental small-pox.

It appeared that he had had hernia for some years, and was in the habit of wearing a truss; that the hernia had escaped from under the truss, without any remarkable effort, on this morning at five o'clock. He had no pain or other bad symptoms at first; but applying to a medical practitioner, violent pressure, as he said, was made upon the tumour, with the intention of reducing it.

In consequence of this pressure, the part had become excessively painful, and so tender as scarcely to permit it to be touched. The tumour was about four inches in length, and two inches and a half in diameter: the smoothness of its surface indicated that the contents were intestine. The skin was red. The entrance of the tumour into the abdominal ring could be distinguished, and its passage above the ring through the abdominal canal.

Dr. Townsend, who had charge of the surgical patients in the hospital at this time, and Dr. Hayward being present, the following measures were agreed to and executed: to sit the patient up in a chair and bleed until he fainted; during the fainting, to attempt reduction by raising the heels over the shoulders of an attendant, and making moderate pressure on the tumour.

He was accordingly bled twenty-four ounces; then becoming faint, the feet were taken on the back of an assistant, and pressure was made in the manner proposed. The tension of the recti muscles appeared to operate unfavourably by producing compression on the abdominal viscera; this was partially obviated by letting him down till the pelvis rested on the bed. Pressure on the tumour, attempts to insinuate the hernia through the ring, pressure on the lower part of the abdomen directed from below upwards, were now practised with the view of returning the hernial contents. The efforts made in this way having been unsuccessful, the patient was elevated, placed on a chair, and bled from the other arm till he again became faint, when the manœuvres above detailed were repeated, but the tumour did not yield in the slightest degree.

At this stage it was determined, on consultation, that instead of going through the common routine of applications, an operation should be immediately resorted to. The patient was, therefore, removed to the operating theatre; the part concerned was shaved, he was then placed on the table, and the operation performed in the manner to be described.

A small puncture was made with a knife, and the probe-pointed bistoury was introduced, in the hope of insinuating it through the fascia into the abdominal ring, and dilating the ring by a subcutaneous cut. The excessive sensibility of the part increased the ordinary difficulty of this mode of operating, so that it was relinquished.

An incision was then made about three inches long, beginning an inch above the abdominal ring, and ending two inches below it. The dissection was continued the whole length of the wound through the cellular texture, fascia and cremaster, till the covering of the sac appeared thin. The movements of the patient from excessive sensibility, rendered it impracticable to dilate the stricture without opening the sac; wherefore a portion of this covering being raised by the forceps, it was cautiously divided by the point of a knife, and a minute stream of water issuing from it, indicated the opening of the sac. A further dilatation of the opening being then made, about two tablespoonfuls of water were discharged.

The finger was next introduced through this orifice in the sac, which had been enlarged to about two inches, in search of the stricture. This was so blocked up by intestine, as not to be readily discriminated; but after two or three minutes' delay, the extremity of the little finger was insinuated into the stricture, which was obviously in the tendon of the external oblique muscle at the abdominal ring. The probe-pointed bistoury was now introduced with its flat surface on the finger, and then having its edge turned forwards, it was moved in a direction upwards by the finger which was in the wound, and thus the stricture was safely dilated, and the bistoury was then laid aside.

The intestine which filled the sac was of a deep purple colour, though the strangulation had existed only six hours. This part being gently drawn down, a portion of sound intestine, which lay above the stricture, was pulled out of it; then the effort was made to return the intestine by pushing in the internal layer, or that towards the median line. This not succeeding, the effort was made on the outer fold of intestine, which, lying behind the other, passed in without difficulty. The hernia was thus reduced, and the patient immediately relieved from his state of suffering.

The scrotal artery and one of its branches required ligature. The edges of the wound were brought together by a number of fine sutures; a cold water compress was applied upon it, and the patient was directed, whenever he had occasion to move, to place his right hand on the wound. He was then conveyed to bed, and three hours after had an enema which operated favourably.

He passed the night after the operation quietly, and the next morning was in a cheerful and natural state: the pulse was healthy, the skin cool, the tongue had a slight fur. His appetite was good; there was no pain nor tenderness in the abdomen. A purgative of senna was employed, which operated freely. His recovery was rapid, and in a few days he took his departure from the hospital.

Remark.—This case particularly shows the advantage of an early resort to the operation. The great pain and tenderness in the hernia which this patient experienced, and the dark colour of the intestine when the sac was opened, make it probable that the processes of inflammation would have proceeded rapidly, and terminated in gangrene at an early period. The pain of the operation was not greater than, if so great as, that from the pressure employed in taxis, and the immediate effect of the wound, the exposure and handling of the intestine, were productive of very slight consequences.

Case V. *Crural Hernia: operation in thirty-two hours after strangulation: effort at the permanent cure of the rupture: effects of confinement in the horizontal posture.*—A brickmaker, about 35 years old, was brought into the Massachusetts General Hospital on the 21st of April, 1844. His brother, who had undergone ligature of the subclavian artery, was at the same time a patient in the hospital. He is a tall, rather spare man; he has been subject to hernia fourteen years, and retained it by a truss.

On the day previous, being at work at his business, the hernia escaped from under the truss, and he felt a severe pain in the bowels. Soon after he was seized with vomiting, and the pain becoming very acute, in the following night he sent for Dr. Hooker, of East Cambridge, where he resided. Dr. H. tried taxis without success, then bled him, gave him an injection, and after having continued his efforts for a number of hours, he sent him to the hospital. He was there put into a warm bath, cold applications were made, and moderate pressure was tried once more. No diminution of the tumour taking place, the operation was agreed upon in consultation with my colleagues, Drs. Hayward and Townsend, and resorted to at 5 o'clock, P. M., about thirty-two hours after strangulation, and eight after he entered the hospital.

The parts having been cleared of hair, and the patient placed on the table with his legs hanging down, and his head supported in an easy posture, the tumour was once more carefully examined previous to operating. It lay in the right groin, was about two inches in diameter, and occupied the space directly over Poupart's ligament, one half of the tumour being above, and one half below this ligament. The skin was then drawn up in a double fold; its division made a wound about two inches and a half long, and uncovered the anterior face of the hernia; this was invested, as usual, in crural hernia, by a quantity of fat. I then drew the tumour down from the face of the external oblique muscle, and endeavoured to expose the fascia investing the neck of the sac; but the tumour could not be sufficiently displaced to allow this. I therefore dissected the fat from the sac, found a little soft rising, indicating a collection of water at that point, punctured this, introduced a director, and opened the sac to the edge of Poupart's ligament; the fascia being, as usual in crural hernia, very thin. A mass of omentum was exposed, and this being raised, a fold of dark-coloured intestine was seen lying under it: the handling of these parts gave no pain to the patient.

I then attempted to insinuate the little finger of the left hand under the edge of Poupart's ligament, but could only find room for the nail. On this a probe-pointed bistoury was placed, and by a small incision the end of the finger could be passed far enough to feel the semi-lunar insertion of the external oblique muscle into the os pubis. This being divided by an incision towards the median line, sufficiently to allow the finger to pass, the knife was withdrawn, and the intestine readily returned into the cavity of the abdomen. The omentum was then pushed up, but a small process of it immediately came back. By passing the finger into the neck of the sac, I ascertained that this portion of omentum had contracted adhesion to that part; this was considered fortunate, as it might serve to aid in closing the hernial aperture. The examination of the omentum gave an opportunity of noticing the obturator artery; I found it passing transversely from the epigastric to the obturator foramen, in a line, as nearly as I could judge, an inch below the crural aperture.

In dressing the wound, I wished, if possible, to do something towards the prevention of a return of the rupture. For this purpose, instead of sewing the edges of the skin together, I included in the suture an inch of integument on each side of the wound directly over the crural ring, so as to shorten the skin at that point two inches. Large quantities of soft lint were laid on the wound, and this was supported by a bandage; he was directed, whenever he moved or had an evacuation, to place his hand over the wound.

The patient was at once relieved from pain. In two hours he had an injection which operated favourably. The next morning he took a small dose of senna, which purged him moderately; he was free from any suffering, but complained of hunger, for which he was allowed gruel and light drinks.

On the fourth day after the operation, the wound having nearly united by the first intention, there was a thickening of the cellular membrane around the incision, with a slight erythematous appearance of the skin. For this he was ordered a laxative, and the application of cucumber ointment to the part; under these measures, in the course of thirty-six hours, the erythema disappeared. He convalesced rapidly, and on the fifteenth day was so well, that he asked permission to go home, but was induced to remain a few days longer in the hospital.

The patient had been restricted to the horizontal position, without having been once raised after the operation, till May 8th, seventeen days, in order to give the hernial aperture time to close, by means of the inflammation produced by the suture and the wound of the operation. At this time, after having been exposed to an open window near his bed, he was seized with chills followed by febrile reaction, some soreness of the throat, and a very dry tongue. The appetite of course failed, but there was no great disposition for liquids; the respiration was without any labour; he had a slight propensity to cough. Percussion on the forepart of the chest presented nothing extraordinary; the respiratory murmur was not distinctly audible on the left side. These symptoms were thought to be of a grave character, and arising from congestive inflammation, produced by the combined action of cold on the skin and long confinement in the horizontal posture. It was not thought expedient to bleed him, but he was largely blistered on the chest, the bowels were evacuated, and hot applications made to the extremities.

After the lapse of a day or two, the severity of the symptoms having passed off, he was ordered to be raised in bed for a short time daily, and the back, being then accessible, was examined; the sound on percussion was dull on the left side; crepitous rattle was heard at the upper part of the lung; at the lower part there was no audible murmur. The cough had become rare, but was attended with the expectoration of a very dark-coloured mucus.

He continued in this condition with very little variation, till the 18th of May, when it was evident that his disease had ameliorated, and his state was no longer one of danger. Directions were given to have his position altered occasionally, from the back to the side. From this time he rapidly convalesced, and in a few days he was discharged from the hospital.

Remarks.—In this case the patient was immediately relieved, by the operation, from very great suffering, and had afterwards no symptom, worthy of notice, which was dependent on it. The existence of erythema in the hospital at the time slightly retarded his recovery; but after this had passed off, a formidable affection, not immediately connected with the operation, produced a more serious impression on him.

It is well known, that when patients are very closely confined to the bed by accidents connected with wounds, the pulmonary circulation is apt to become languid, and eventually to result in congestive inflammation. The signs of this affection are in many of these cases so indistinct, that the disease often passes unnoticed, or is confounded with the preceding affection. A singular coincidence presented itself in the occurrence of a similar disease, congestive inflammation of the lungs, in the brother of this patient, who had been operated on for ligature of the subclavian artery a short time before. The liability to these attacks should make us careful not to enforce a total immobility of the body, where it can possibly be avoided.*

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* The following case will illustrate more strongly the dangers of too long confinement in the horizontal posture.

Some years ago, I was called, by an eminent physician in this vicinity, to see a patient of his, a female, who had been for eight days suffering from a strangulated crural hernia. She was cold and almost pulseless; the skin over the hernia was dark coloured. I made an incision through the tumour into the sac, and opened it for about two inches. The intestine was found to be sloughing. The patient was, of course, apparently in a hopeless state. Cordials were given her, and, contrary to expectation, she revived; the gangrenous parts separated; the fæces discharged themselves from the wound. The parts put on a healthy appearance, and in about four weeks after the operation, by the aid of pressure, the fæces began to assume their natural course.

From this time I saw no more of the patient; but about three weeks afterwards, or in seven weeks from the time of the operation, I was requested to examine her body. It appeared that she had improved constantly, but had never been allowed to rise in bed, from an apprehension that the intestines would make their way through the wound. On the night previous to her death, awaking suddenly, instead of drinking in the horizontal posture, as she had been accustomed to do, from the impulse of the moment she rose in bed quickly, drank the fluid offered her, and then fell back in a state of syncope, from which she never recovered.

I carefully examined the body, particularly the brain, and could discover no physical cause for her death, excepting perhaps that the brain was unusually free from

It is a little remarkable, that this is the only instance in which I have had to do the operation for strangulated crural hernia in the male subject, while I have done it a great number of times for females. By some late French authorities, it would appear that crural hernia was as common in the male as scrotal; my own observation would lead to a very different result. In the course of my life, I have seen but a few instances of the existence of crural hernia in the male, while I have met with a very great number of scrotal.

Case VI. *Appearances after death of the parts concerned in a strangulated hernia; no stricture at the mouth of the sac, and no appearance of peritoneal inflammation.*—An Irish seaman, about 30 years old, was brought into the hospital, on the 19th of April, 1844, cold and pulseless. It appeared that he had, for some time back, had a scrotal hernia; that four days since he exhibited marks of indisposition without explaining the nature of his sufferings. On this morning, a medical gentleman, Dr. Adams, was sent for, who ascertained that he had a strangulated hernia, and advised his being brought to the hospital, which was accomplished at 10 o'clock of same day. When he arrived there he was in a dying state, so that nothing could be done for him, and soon after he expired.

On the morning of April 20th, I examined the body. The dead man appeared to have been a stout, healthy person, with a good share of adipose substance about him. The skin was generally of a livid colour. The scrotum exhibited a tumour nearly six inches in length, and about the same in diameter; it had a livid appearance, and in one part was almost gangrenous.

I made an incision beginning three inches above the abdominal ring, and carrying it down to the testicle. The skin was then dissected off for an inch on each side, thus uncovering the fascia superficialis, which was thin. Below this was found a fibrous organization, composed of strong fibres, covering the upper part of the hernial tumour. These fibres were interwoven with cellular texture, so that the whole could be raised from the upper part of the tumour in the form of a membrane. Under this appeared the fasciculi of the cremaster muscle, extending towards the lower part of the tumour, and forming there a continuous thin muscular membrane. This layer was raised for about two inches, leaving the fasciculi entire at the upper part of the hernial tumour, and beneath this appeared a fascia of about the thickness of a sheet of writing paper, which seemed to be the

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blood. The parts concerned in the hernia were preserved, and also a drawing made of them. They beautifully illustrate the process by which nature unites into one the two orifices of a sphacelated intestine, thereby restoring the continuity of the canal.

Had this patient been gradually raised in bed, soon after the ends of the intestine had formed, as they do in such cases, a union with the orifice of the hernial sac, she would, it is to be presumed, have escaped the fatal syncope caused by a sudden change from the horizontal to the vertical position, after having remained so long a time in the former state, and perhaps have ultimately recovered.

immediate covering of the sac, but on dissecting it delicately, it was found to present a number of fibrous layers, the last of which, like a fine gauze, immediately invested the peritoneum. This being opened, a copious discharge of yellow serum took place, and the black intestine presented itself at the aperture. Having resolved to preserve the parts as entire as possible, I did not increase the aperture of the sac beyond two inches, as stated before.

The hernia not being reducible, I proceeded to examine the cause of the impediment, being desirous to know whether there was in this case any support afforded to the doctrine lately put out, that all strangulations are in the mouth of the sac. Examining the superficial fascia over the abdominal ring, I found it excessively tense from the intestinal tumour within it. I then cautiously dissected through this fascia, without producing any material change in the tension of the abdominal ring. The dissection was therefore continued till the tendon of the external oblique muscle was divided, the fibres of the cremaster within being carefully left untouched, so that nothing but the ring and fascia should be cut. Then passing a bougie through the aperture of the sac and upwards to the stricture, with a little management, it was insinuated through the stricture, after which a bougie of larger size being passed in the same direction, was without difficulty pushed into the cavity of the abdomen. Then I opened this cavity, by an incision across the umbilicus, and another at right angles with it, and found the abdomen containing a considerable quantity of serum, the small intestine generally black and crowded with fluid, which the friends of the patient had given him with kind intentions no doubt, but which must have greatly distressed him and accelerated his death. On passing the fingers to the inner ring, the mouth of the sac was found to be between one and two inches in diameter, and notwithstanding the swelled intestine and fat mesentery, the finger could be readily introduced by the side of the intestine, showing that no stricture existed at the mouth of the sac.

It has been stated that the small intestine was of a black colour generally. This fact I was at a loss to account for, because there was neither any exudation of lymph, nor other mark of inflammation of the serous membrane of the parietes of the abdomen, nor of the serous investment of the intestine; but presently it was explained, by noticing that the whole mesentery was in a state of tension, from the part of it existing in the hernial tumour. This tension was so great, in consequence of the traction on the vessels, as to interrupt the circulation through all the mesenteric vessels, and produce a congestion of blood in the veins.

A second subject of inquiry, the existence of peritoneal inflammation, remained to be examined. The peritoneum, as already stated, no where exhibited any considerable degree of inflammation; it was not discoloured, except from the mucous membrane within it, and at no part exhibited the slightest exudation of lymph, either in the cavity of the abdomen, or in the hernial sac. There was no omentum in the sac, nor in any part of the inferior abdominal region.

Remarks.—It appears, then, that the phenomena of this case give no support to the opinion, that the seat of strangulation is at the mouth of the sac. For the mouth of the sac was quite expanded, and the actual seat of constriction resided in the tendon of the external oblique muscle at the abdominal ring. Secondly, there was no distinct appearance of peritoneal inflammation.

In this case the stricture was removed by dissection from without, for although the sac was previously opened, yet the stricture was not divided from its interior, so that probably this hernia might have been reduced without at all cutting into the hernial sac, and the intestine returned into the cavity of the abdomen. If this operation had been resorted to within twenty-four hours of strangulation, the patient's life would, perhaps, have been saved, and he would have been restored to health in a few days.

Case VII.—The following case is, perhaps, sufficiently remarkable to allow of its introduction in this place, although it is not connected with the principal topics above noticed.

I was requested by Dr. Parker to see a patient of his, who had been attacked with strangulation on the day previous. The hernia was scrotal, on the right side, and of considerable size. I made careful and continued attempts to effect the reduction without success; other measures having been previously employed, I recommended an operation as soon as the patient could be brought to submit to it. In three or four hours, his consent having been obtained, the parts concerned were shaved, and all other arrangements made for its performance.

The patient was laid on a table, with his legs hanging down as usual; I placed the thumb and fore-finger of the left hand on the skin over each side of the hernia, without making pressure, turned to receive a scalpel from an assistant behind me, and bringing the scalpel down to the surface of the hernia, I perceived there was no longer any tumour; the hernia had at that moment receded, and was perfectly reduced. The patient, to his great satisfaction, was restored to his bed, and had an injection, which operated favourably that night. The next day he took a dose of senna, which cleared his bowels, and in a few days he was quite well.

General Reflections.—The importance of an early resort to a surgical operation in strangulated hernia will, I think, sufficiently appear from the cases recorded above. These have principally occurred within the last six years; they do not include all which have come under my observation during that time; but those not here recorded confirm the same doctrine, since they have been uniformly successful, with the exception of a case admitted to the hospital in October, 1838, and which was not operated on till three days had elapsed from the period of strangulation, for which reason the details of this case have not been given.

The common advice is to employ pressure, and afterwards a certain routine of applications, viz., bleeding, the warm bath, cold to the part, injections of tobacco, with perhaps other remedies, as opium, belladonna, etc., and if these fail, then to operate. In the meanwhile the patient continues in great distress, with an inflammation gradually increasing, and threatening to become unmanageable and fatal. A discussion of the utility of these, and other modes of effecting the reduction, would extend this paper to too great a length ; I will only, therefore, briefly state the results of my experience in regard to them. First, pressure, actively and judiciously employed for a short time, is proper and indispensable; if long continued, either by the hand, bandage, bags of air, water or mercury, it is calculated rather to increase inflammation than to reduce the hernia. Second, bleeding, as above stated, may be carried to a considerable extent under the eye of a judicious and experienced practitioner. Third, the warm bath may be resorted to in mild cases, but in bad strangulations it is useless, and sometimes seems to increase the tension of the abdomen. Fourth, cold to the part may be employed for a short time in the early stage of the affection ; when long continued it may produce gangrene, as I have myself experienced. Fifth, the injection of tobacco is an uncertain and dangerous application, wholly inefficacious when the strength of the infusion is weak, and dangerous when it is strong. Sixth, large doses of opium I have known to be useful, giving the patient temporary relief, and afterwards causing muscular relaxation favourable to the reduction of the hernia. Purgative medicines are almost always pernicious. The local application of belladonna, as practised in Germany, appears to me to be a trifling with the life of the patient. It would not be proper, for reasons already hinted at, to consider in this place other modes of treating strangulated hernia, as, for example, the attempt to remove the stricture by dilatation without cutting. This proposal, made by a distinguished English physician, seems to me rather extraordinary: in nearly every case of strangulated hernia, which I have seen and known of, there has been barely room to introduce a small instrument, such as a director, or a narrow-bladed knife. The attempt to introduce and employ dilators, of sufficient strength to distend the fibrous apparatus of the abdominal and crural rings, would, I humbly conceive, be nugatory, if not dangerous.

It would seem, from the recent reports of the Parisian hospitals, that the operation is usually too long delayed, being deferred for two or three days. [See the Reports of the Practice in Hôtel-Dieu. *Paris Med. Gaz.*, vol. x.] This matter is the more worthy of discussion, for we look to these hospitals as authority not to be excelled on the subject of surgical operations. From data collected by M. Malgaigne, it appears, that the number of cases of strangulated hernia operated upon, in the hospitals of Paris, from January 1st, 1836, to December 31st, 1840, were 220, and of these 133 died. [Vide

Gaz. Med. de Paris, tom. x. p. 460.] Also from the surgical records of the Hôtel-Dieu, as given in the same volume of the work already referred to, on page 355, it appears, that the number of cases of strangulated hernia admitted to this hospital during the year 1841, were, of crural hernia 6, of inguinal 3. The deaths of those operated on were 5; one death occurred in a patient not operated on. Allowing, then, that this one case was of too long standing to permit an operation at the time of its admission to the hospital, we still have five deaths in eight operations. The result in our practice, as already stated, has been very different; it being a rare occurrence for us to lose a patient after the operation for strangulated hernia, if called to him in the first period of the attack. Possibly these cases alluded to as received into the Parisian hospitals may have been generally strangulated for some days prior to their admission.

Another remark which may be made in this connection is, that if the operation be long delayed, the parts swell, and thus increase the difficulty of the reduction. In fact, the surgeon should bear in mind, when he employs taxis, the difficulty which may arise, if he is compelled to resort to the operation, from the swelled state of the hernial contents, and their increased sensibility, in consequence of pressure too long continued.*

For these reasons, we cannot too strongly recommend an early resort to the operation in cases of bad strangulation; those where the pain, tenderness and firmness of the tumour are great, and where a constitutional affection distinctly exists. In such, after a scientific and cautious use of pressure, I should advise the following course, that general bleeding be immediately employed, and continued until the patient is made faint. This course will bring on that faintness, which produces the highest degree of relaxation, as well as exert another most important effect in preventing or diminishing inflammation in the affected part. In this state the hernia may usually be reduced, if reducible without an operation. The employment of the warm-bath, of cold to the part, of tobacco, etc., is inferior in efficacy to copious bleeding; they exhaust a precious period of time, and the strength of the patient. But in cases of strangulation, not attended with severe pain, or other local and constitutional disturbance, the operation should not be too hastily resorted to.

With regard to the seat of the stricture, the question has been agitated in the French schools, whether strangulation ever exists in the external abdominal ring, and whether it is not always situated in the neck of the hernial sac. In most of the cases of inguinal hernia, which we have had occasion to see, the strangulation was in the external abdominal ring, and the division of this part relieved the stricture, and allowed the hernia to be returned without any interference from the neck of the sac. None of the cases here described, go to show that the stricture was in the mouth of the sac. I have, however, operated on cases where the stricture was at the upper ring, and some of these might, no doubt, be cases where the stricture was produced by the neck of the sac, but they are comparatively rare.

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* The learned editor of the Paris Medical Gazette, May 11th, 1844, objects to the early operation for strangulated hernia, that taxis, when successful, is not followed by any of the bad consequences of herniotomy. Without entering into the discussion of this point, we should reply, that this argument does not appear to us a sufficient objection to early operation, for in every instance of capital disease, the first question the surgeon has to settle, and one paramount to all others, is, how he can most certainly secure his patient's life. Now we think there is satisfactory evidence in favour of the doctrine, that the early operation would save the greater number of lives.

Another doctrine has been maintained by high authority, which teaches, that a considerable proportion of cases of supposed strangulated hernia are cases of inflammation of the hernial sac. The history of the instances falling within our experience, does not afford any support to this doctrine; and the appearance of the hernial contents in those operated on proves that they were inflamed from interruption to their circulation. In case fourth, for example, the intestine below the stricture was nearly black, but when an additional portion was drawn from the cavity of the abdomen, for the purpose of disengaging it from the stricture, the part thus drawn out was not discoloured. None of the cases reported in this article support this doctrine of peritoneal inflammation, and although such cases may sometimes present themselves, their occurrence is, we believe, exceedingly rare.

The practicability and utility in some instances of dividing the stricture, without opening the hernial sac, have been established by the experience of various eminent surgeons. We have here mentioned two cases, the first and third, in which this practice was employed with perfect success; in the case of crural hernia in the male, it was attempted, but could not be executed. On the whole, we think that this method of operating should be tried more frequently than it has been heretofore; we may even say that it should be generally attempted. In cases where there was reason to suspect gangrene of the hernial contents, it would be improper; in such it would be proper to open the sac and give the gangrenous part an opportunity of separating. In cases where the stricture was in the neck of the sac, whether at the lower ring or the upper, this operation would be inapplicable, but such cases, we apprehend, are not very frequent.

The last point which remains to be noticed is, the possibility of conducting the treatment, subsequent to the operation, so as to give the patient some security against the return of the rupture after his recovery. This has been fully shown in case fifth. In this case the patient wore a bandage for a few days; after the adhesion of the wound, it was discontinued. When he arose from his bed, afterwards, while he walked about the wards, and when he quitted the hospital, he had neither truss nor bandage, nor was there any appearance of the descent of the intestine. The plan to be recommended to gain the desired end, is the following. In bringing the wound together after the operation, introduce the needle for making the suture, at the distance of one inch from the edge of the wound on one side, and bring it out at the distance of one inch from the edge on the opposite side. This suture will include two inches of skin; the thread should be tied so as to gather up this skin over the abdominal ring. Two such sutures should be employed, at the distance of little more than an inch from each other. In this way a natural pad will be formed, which will adhere to the aperture of the ring, and which may be sufficient to prevent the subsequent descent of the hernia.

ART. II.—*On the Pathology of Remittent Fever.* By JOHN A. SWETT, M. D., Physician to the New York Hospital.

DR. STEWARDSON, in his Essays on Remittent Fever, published in the *American Journal of the Medical Sciences*, of 1842 and '43, first called the attention of the profession to a peculiar condition of the liver as the anatomical characteristic of that disease. Being in attendance in the medical wards of the New York Hospital, during the months of August, September and October of the past year, the season when many cases of remittent fever are usually admitted, especially from the sailors who arrive from our southern ports, I determined to prosecute his inquiries. Unfortunately, for this object at least, but few fatal cases have occurred, and I would hesitate to communicate the few facts that I have to offer, did I not believe that new opinions can only become confirmed by the concurrent testimony of many independent observers.

The whole number of cases admitted to the hospital, during the three months, was thirty-four; of these, five terminated fatally, on the 12th, 13th, 14th, 18th and 20th day of the disease. The mean duration of the disease in twenty-three favourable cases, where it could be accurately noticed, was fifteen days, the maximum twenty-four days, the minimum ten days. The regularity with which the disease terminated in favourable cases is, I think, a striking feature in its history. In cases where the convalescence was protracted beyond the usual term, it appeared to me to be owing more to the existence of some complication than to the severity of the attack. The patients were generally young men, the average age in thirty-two cases being about twenty-two years. They were all attacked in a few days after leaving the port in which they had been exposed to the causes of the disease, usually about the eighth day, never later than the fourteenth. Twelve patients came from the ports of North Carolina, especially from Wilmington; eight from Virginia, especially from York and James rivers; nine from Savannah; one only from Charleston, S. C., one from Baltimore, one from Havana, one from Rochester, one from the Mississippi and Ohio rivers. No case entered the hospital in which the disease appeared to have been contracted in this city or the neighbourhood, although it is said to have been more or less prevalent in these localities.

It is not my intention to enter into an analysis of the symptoms, beyond offering a few general statements. The cases, it is believed, presented no unusual features, and the detail of the symptoms would, therefore, be tedious. Most of the cases were ushered in by a chill, (twenty-three times in thirty-one cases). In two cases it was expressly stated that no chill occurred; it is possible that it may have been forgotten. The chills appeared irregularly, and usually ceased about the second day, occasionally at a much later period; twice on the sixth, the eighth, twice on the ninth, twice on the eleventh, and once as late as the thirteenth day. The febrile symptoms, heat of skin and acceleration of pulse, were always present when the patients entered the hospital, and usually continued until about the third day before convalescence. In most of the cases, an exacerbation came on about four o'clock, P. M., and continued until some time during the night, during which the pulse usually rose to 106—112, with a general aggravation of the symptoms; while in the morning it would be found from 96 to 100. In many cases, however, this remission in the symptoms was by no means so decided, and in some cases not more so than in the cases of continued fever, many of which have been observed in the hospital during the present season, and carefully compared with the cases from the South. So that the physician who should attempt to found his diagnosis of the two diseases upon the character of the remissions only, would not unfrequently find himself without a sure guide.

The symptoms of biliary derangement which have also given a name to the disease, were carefully noticed. In many the secretion of bile, as marked by the stools, was much increased in quantity or altered in its colour, so as to constitute one of the most striking symptoms of the disease. This was observed in fifteen, or about one-half the cases; while it was also noticed in many, even of the worst cases, especially among those which were admitted early in the season, that no apparent deviation from the healthy standard took place. The same may be observed of yellowness of the eyes as a symptom of biliary derangement—this symptom was observed in twenty-two cases; still it was entirely wanting in others where the disease was well marked.

Diarrhœa was absent in almost every case. All the patients required the use of purgatives at some period of the disease; they usually acted freely, but without leaving any symptoms of irritation behind them; on the contrary, they frequently afforded decided relief. Tympanitis, even in the cases where prostration was most marked, seldom or never existed, and the absence of abdominal pain and tenderness over those portions occupied by the intestines was also noticed. In one case only, there was much abdominal pain and tenderness—in this case, it was regarded as neuralgic. Over the upper portion of the abdomen the patients frequently complained of tenderness on pressure, particularly over the stomach. This was usually slight, and not accompanied by pain as the general rule, even on careful questioning. This tenderness was commonly united with a certain degree of tension of the muscles, as might indeed be expected ; it seldom extended to the region of the liver or the spleen. Thus while tenderness of the epigastrium is noticed sixteen times, in only two cases did it extend to the right hypochondrium, and in only four cases to the region of the spleen, although this latter organ was at the same time enlarged. (Six cases.)

Vomiting was a more frequent symptom, still it could seldom be regarded as an urgent one. Many of the patients had vomited before they reached the hospital, owing sometimes to emetics, which appeared, however, to do them more harm than good, sometimes perhaps to improper articles of drink, and still more frequently, I think, in connection with the chills that mark the early period of the disease. This symptom frequently ceased spontaneously after admission to the hospital, although I find that it occurred in sixteen cases after their admission, but never in excess. The matter vomited was the simple drinks that the patients used, frequently tinged a little with greenish or yellowish bile—in a very few instances only could the matter vomited be called emphatically bilious.

I would remark, also, that the tongue was usually coated, first with a thin white, at length with a more thick and dirty coat, but remained moist to the end of the disease, in at least two-thirds of the cases ; it is noted as becoming dry in twelve cases only.

Bronchitis occurred in twelve cases, sometimes with mucous rattle, oftener without it. I should believe this to be an important complication, did it lead to the production of pneumonia, the immediate cause of death, I think, in two of the fatal cases ; I cannot, however, discover any immediate connection.

The nervous symptoms, properly speaking, seem to me to constitute an important feature of this disease. The prostration of strength which accompanies the onset, was frequently the most prominent symptom throughout the disease in the estimation of the patient. Subsultus tendinum was occasionally noticed, (five times.) In one case, violent convulsive motions with opisthotonos occurred ; the case, however, recovered, although the convalescence was protracted to the twenty-second day. Delirium was noticed in five cases, and stupor in nine cases. It is probable that few or no patients escaped more or less pain in the head and vertigo ; it was not, however, noted in more than one-half the cases.

In no case were sudamina about the neck, or rose-coloured spots upon the abdomen noticed, although they were carefully looked for.

The urine was generally of natural appearance, and without sediment throughout the disease.

The treatment adopted was extremely simple. During the earlier periods of the disease, the patients were usually purged every second day by calomel, grs. x., followed in a few hours by castor oil, ℥i. A marked degree of stupor was at once met by local depletion and ice to the head, or if the patient appeared too feeble for this, a blister was applied to the nucha. Vomiting and pain at the epigastrium were met by leeches to the part, and the free use of ice internally. As soon as decided remissions appeared, quinine was administered, a grain every two hours in solution. In cases, however, where no remission occurred, and where the patient appeared much exhausted, with a feeble pulse, a dry tongue and moderate heat of skin, the quinine was still administered, and sometimes in combination with stimulants. Occasionally this treatment was obliged to be interrupted, but generally it answered the best expectations, even when stupor and other prominent local symptoms were present. The most formidable symptoms we encountered were those of collapse. In two cases they proved fatal, and in a third, a patient whose case had presented nothing alarming, was suddenly seized with symptoms of this nature, and was only saved by the use of powerful stimulants. On reviewing the cases that have fallen under my care, it has appeared to me that the prominent symptoms threatening a fatal termination, have promptly yielded if promptly met, and that a large proportion of even severe cases will terminate successfully, if too much is not attempted during the ordinary progress of the case. The expectant method of treatment, founded in reason and experience, is, above all, applicable to fevers whose progress appears to be self-limited, although far from being uniform.

I have preferred introducing a full report of the five fatal cases as they are found in the medical register of the hospital. The notes were taken from dictation, by the Senior Walker, at the regular visit at one o'clock, P. M.

Case I.—W. A. Tuttle, ætat. 24, born in Connecticut, seaman, entered the New York Hospital, August 5th, 1844. He had usually enjoyed good health, until about three months before his admission, while at Porto Rico. He there became affected with diarrhœa, four to eight stools in twenty-four hours, which has continued to the present time. His passages have varied in colour, from green to brown, and his disease has been subjected to no treatment. Eight days ago he left Wilmington, N. C., and arrived in New York on the 4th. He was well during the voyage, with the exception of his diarrhœa, which did not affect, materially, his health, until two days ago, the day before his arrival. He was then seized with pain in the head, back and limbs, followed by a chill. On admission, he complained, also, of pain in the epigastrium, and in the left hypochondriac region; his stomach was quite irritable; tongue coated, white and moist; skin warm; pulse 104, regular. Has taken a dose of calomel and jalap, which vomited and purged him.

9th. Complains of dizziness and ringing in the ears; tongue slightly coated and moist; tenderness on pressure over the upper portion of the abdomen, which is free from tympanitis; two or three stools in twenty-four hours; urine natural in appearance. Skin hot; pulse 100.

10*th.* Delirious last night; rational to-day, but rather stupid; no headache; tongue covered by a thin white coat; tenderness on pressure at the epigastrium. One stool; pulse 112, soft, of moderate strength; skin warmer than natural.

11*th.* Delirium at night, a little wandering to-day; less stupor; no pain in the head. Tongue white, moist. Five stools; no tympanitis; abdomen generally a little tender on pressure. Skin cool; pulse 96, regular, soft, of moderate strength.

In the evening the pulse had risen to 108, with hot skin; the patient appeared to be sleeping.

12*th.* Stupor, from which the patient cannot be roused; respiration laboured and noisy; alæ nasi flaring; tongue rather dry; three stools; abdomen soft, not distended; pulse 124, feeble, regular. Died comatose at 10 P. M.

Post-mortem examination fourteen hours after death.

Brain natural, presenting about the usual degree of venous congestion.

Lungs healthy, lower lobes somewhat congested, as is usual.

Stomach of the natural size, containing a small quantity of viscid, greenish fluid. Its mucous membrane covered with brownish mucus, appeared more vascular than natural. In the cul-de-sac this vascularity was arborescent, and apparently venous with small patches of ecchymosis near the cardiac orifice. The anterior and posterior surfaces were of a faint, pinkish brown hue, formed by numerous minute points in clusters. On the lesser curvature, near the pylorus, the membrane was pale and strongly contrasted with the rest. The natural consistence and thickness of this membrane were preserved.

The mucous membrane of the duodenum was injected like that of the stomach, otherwise natural; its mucous follicles not remarkably distinct.

The small intestines containing their fœcal matter of natural colour, were perfectly healthy; a little venous congestion existed near the end of the ileum.

The liver of natural size, presented externally a bronzed appearance; internally it presented an uniform olive tint; the granular structure was less distinct than natural. The organ was slightly softened, and discharged, when pressed, a considerable quantity of thin blood. The gall bladder was filled with viscid brownish bile, like thick molasses.

The spleen was rather large, and perhaps rather more soft and congested than usual, but not materially diseased.

Kidneys healthy; abdominal veins not congested. By accident, the condition of the large intestines has been omitted in the notes.

Case II.—Francis Lobey, ætat. 40; Ireland; engineer; entered the New York Hospital, August 29th, 1844. The patient was seized seven days ago, while coming down the canal from Rochester, with a chill, pain in the head, limbs and abdomen; loss of appetite and vomiting, which symptoms have continued, for the most part, to the time of his admission. Complains of dizziness; tongue large, covered with a dirty white coat; tenderness at epigastrium; abdomen soft, bowels disposed to be loose. Skin of natural temperature; pulse 80.

Sept. 1*st.* Chill followed by fever yesterday afternoon, and vomiting. Skin to-day cool; pulse 88. Sulph. quinine.

2*d.* Has been sitting up this morning. Complains of a little headache; has vomited; pulse 100.

3*d.* Fever last evening, but no chill; pulse 92; this morning pulse 84; vomiting; two or three stools without medicine; abdomen soft, free from tympanitis; no tenderness on pressure, but coughing, of which he now complains, causes some pain in the region of the spleen.

4*th.* Fever last evening, no chill; skin this morning cool; pulse 100; eyes suffused; tongue dry and brown in the centre, moist at the edges; no inclination to vomit; thirst. The pain over the region of the spleen, on coughing, continues, and there is now some tenderness on pressure extending backward towards the region of the kidney; percussion and auscultation natural. Three stools.

5*th.* Nausea last evening, none to-day; slight tenderness in epigastrium and left hypochondrium; three dark, slimy, bilious stools; pulse 84; skin cool. Calomel, grs. x., followed by oil.

6*th.* Violent chill last evening, followed by little or no reaction; pulse 88, soft; tongue covered with a dirty yellowish coat, but moist; several stools after the oil, of good colour.

7*th.* No chill last evening; pulse 96, full. Three dark green slimy stools; no pain or tenderness in abdomen; tongue covered with a thick yellow coat, and dry. Calomel and oil.

8*th.* Last evening a chill, followed by fever and sweating, the excitement continuing all night. This morning the skin is cool; pulse 100; tongue dirty and dry; no vomiting. Slight tenderness in epigastric and hypochondriac regions; abdomen soft, free from distension; three stools, dark and slimy. Disposition to stupor.

9*th.* In the afternoon of yesterday the stupor had disappeared; but in the evening it returned with febrile excitement, but no chill. Stupor continues; pupils much contracted; head hot; pulse 140, feeble; is constantly groaning; respiration laborious. Lips and tongue dry; bowels freely open; abdomen not distended. Leeches; ice to head. Stimulants internally.

10*th.* Revived a little in the evening, but not sufficiently to answer questions. Although moribund, the skin is hot and perspiring; the heat of the head is pungent, notwithstanding the application of ice; pulse feeble, accelerated. Died an hour after the visit at 2, P. M.

Post-mortem examination eleven hours after death.

Brain not more congested than usual; slight sub-arachnoid effusion; about a drachm of fluid in the occipital fossa. The substance of the brain on the left side softer than on the right, particularly that portion forming the walls of the ventricle; the superficial portion of the optic thalamus being reduced to a white pulp. A little bloody serum was found in the posterior cornu; plexus choroides pale and full of small cysts. Ventricles not enlarged.

Lungs. Bronchial tubes much dilated, filled with a bloody frothy fluid; mucous membrane transparent, but a good deal of congestion beneath it. The lower lobe of both lungs was in the first stage of pneumonia, passing into the second stage at some points. Upper lobes the seat of marked pulmonary œdema.

Heart flabby, a little soft; containing a small quantity of fluid blood in the ventricles.

Stomach small, containing a thin dark green fluid. The mucous membrane of the left half of the organ was strikingly injected, and contrasting strongly, with its reddish-brown colour, with the pale yellowish tint of the right portion. The injection, when carefully examined, was ramiform and apparently venous. The mucous membrane was neither softened nor otherwise altered from its natural condition, unless on the anterior wall near the pylorus, where it was a little mammillated and thickened, although of a pale natural colour.

In the first three inches of the duodenum, the mucous membrane was of a light reddish-brown tint, but otherwise natural; the mucous follicles did not appear enlarged. The mucous membrane of the jejunum was of yellowish tint, and its cavity filled with a yellow viscid matter. The glands of Peyer were very distinct, contrasting strikingly, by their dead white colour, with the yellowish mucous tissue around them; but they, like the membrane about them, were neither thickened nor altered in consistence. In the ileum these glands were less distinct, and in the lower portion the intestine had a perfectly natural appearance; its mucous membrane was a little softened. Large intestines healthy, except in the rectum, where large dark patches of mucous membrane were found, but without softening or increased thickness; and with enlargement of the mucous follicles, evidences of chronic irritation.

Liver of natural size, bronzed externally, mixed with portions of a pale slate colour; this bronzed appearance being most marked over the anterior portion of the right lobe. Internally, the substance of the organ presented a muddy yellowish olive tint, the granulations still visible, but not as distinctly as natural; the change in colour was uniform. The liver felt more flabby than usual; but its tissue was not materially softened; on pressure, a little thin bloody fluid exuded. Gall bladder distended with a thick viscid bile, like molasses in colour and consistence.

Spleen enlarged, flabby, much softened.

Case III.—Mayo, ætat. 25, native of Massachusetts, seaman, entered the New York Hospital, October 24th, 1844. The patient had arrived a week previous from Savannah, and was seized four days ago with pain in the limbs, loss of appetite, irregular chills followed by fever. At the time of his admission, he complained of pain in the head and dizziness; anorexia, thirst; tongue covered with a thin white coat, moist; no vomiting; no tenderness or distension of abdomen; no cough. Skin a little warm; pulse 112, regular, of good strength. Eyes a little injected, but aspect not materially altered. Bowels regular.

25*th.* Headache and dizziness continue; slight tenderness in epigastrium; no nausea; the spleen can be felt projecting under the ribs, but is not tender on pressure. No stool since yesterday; pulse 108, soft. Calomel, grs. x., followed by oil.

26*th.* Pulse 120; skin hot; last evening pulse 104. Headache and dizziness; tongue covered with a thin white coat, moist as before; abdomen free from tenderness, soft. The calomel and oil have operated very freely.

27*th.* Passed a restless night; complains of weakness, of headache and noises in the ears. Slight tenderness in the epigastrium, but no nausea; patient states that he has some appetite. No stool; pulse 100; skin a little warm. Calomel and oil.

28*th.* Pulse 110, regular; skin warm; feels about as yesterday; one stool from the purgative.

29*th.* Restless night; pulse 116; skin hot; bowels freely open, stools thin, but of healthy colour; slight tenderness over abdomen, particularly in the regions of the stomach and spleen.

30*th.* Complains of weakness; pulse 120, soft and feeble; subsultus; one or two stools; tongue looks well; no nausea. Ordered wine.

31*st.* Pulse 120, soft and feeble; subsultus continues; tongue continues clean and moist; no nausea; slight epigastric tenderness; abdomen soft; one stool. Has used wine freely.

Nov. 2*d.* Disposition to stupor and muttering, but no decided delirium. Slight pain in the head; tongue dry in centre, moist at tip, protruded with difficulty; soreness about the lips, which are disposed to bleed. Skin sallow, eyes yellow; abdomen soft, free from pain; two stools. Skin warm and harsh; pulse 100, rather feeble, but regular. Takes wine and arrowroot, also quinine, gr. i., every two hours.

3*d.* About as yesterday.

4*th.* Improved; slept quietly last night; had an injection this morning, which operated well, and revived him a good deal; aspect less dull, but eyes still yellow and complexion sallow. Tongue coated, white and moist; sulcated; abdomen soft and free from tenderness; skin warm and soft; pulse 104, regular, of good strength. Complains of no pain.

5*th.* Disposed to stupor; aspect dull, pale and sallow, eyes yellow and suffused; ulcers about nose and lips, which constantly bleed; will not protrude his tongue, but lips and teeth covered with sordes. Abdomen soft, no tenderness or tympanitis; skin warm; pulse 92, of moderate strength; cough, with expectoration of dirty mucus; respiration oppressed.

6th. Passed the night pretty comfortably; now constant jactitation; twitchings of the muscles of the face and arms; constant groaning and muttering; does not speak, but appears to be conscious; eyes closed, pupils rather contracted; sordes on the teeth; tongue not protruded. Respiration 40, irregular, and with deep catching inspirations. No stool for 48 hours; pulse 132, small and feeble; skin warm and moist. Continues wine.

Evening. Jactitation and stupor continue; cannot swallow; pulse 160, small and feeble. Death at 7 A. M., Nov. 7th.

Post-mortem examination four hours after death. No external marks of decomposition; no tympanitis; skin generally of a yellowish tinge.

Head.—The brain and membranes were quite natural, except that traces of ancient arachnitis existed; the fissure separating the antero-inferior portion of the two hemispheres being united by old and organized adhesions; trifling adhesions also existed over the tentorium; the membranes generally adhered with unusual firmness to the cortical substance.

Thorax.—Both lungs were the seat of pneumonia, the lower lobes being principally affected, although in the right lung the inflammation had climbed up the posterior portion to the very apex; it was of the lobular form; nodules of granulated and softened texture and of a light red colour, surrounded by portions of a brownish-red or livid colour, in some parts dry, in others giving out a viscid reddish fluid more or less aërated. The bronchi were inflamed, the mucous membrane being injected and softened, and the tubes filled with a frothy mucus. The heart, rather large, contained a moderate quantity of blood in the right side, the left being contracted and nearly empty. A few drachms of serum in the pericardium.

Abdomen.—The stomach, somewhat smaller than usual, contained a considerable quantity of a thick, yellowish fluid, and but little mucus; its mucous membrane presented numerous large, transverse folds, with difficulty obliterated by pressure. It was evidently thickened in every part, but especially in the cul-de-sac, where it was also distinctly mammillated; its consistence was increased, but its natural colour was preserved, except on the posterior surface of the cul-de-sac, where several large bands, formed by a punctated and arborescent redness, with slight ecchymosis, existed. On these, however, the mucous membrane preserved the consistence and thickness noticed in the pale portions. No enlarged follicles were observed. The submucous and muscular coats, especially the latter, were also decidedly thickened.

The mucous membrane of the duodenum presented some punctated and arborescent redness, especially at the lower portion; here, also, the glands were unusually distinct. No decided softening or thickening was noticed.

The jejunum was healthy, except a few enlarged follicles in its upper portion; it was stained by brownish bile, and contained a considerable quantity of thin, healthy, fæcal matter. Distinct but not excessive venous arborescence was noticed.

The ileum was thickened in all its coats, increasing from above downward; its mucous membrane was generally pale, with now and then patches of venous arborescence and of increased consistence. In the lower portion, the isolated follicles, as well as the glands of Peyer, were evidently hypertrophied, but pale, firm, and without any trace of ulceration or of surrounding injection. This intestine contained little fæcal matter. The hypertrophy of the intestinal canal extended in a slight degree to the large intestines, but without enlargement of the follicles. In the cæcum, much venous arborescence was noticed. The mesenteric glands were slightly hypertrophied, but pale and firm. The mesenteric veins were but slightly congested.

The liver presented, externally, a slate colour, which, when placed in a proper light, gave a fine bronze tint; internally, it was olive, tinged with yellow. The granular structure was quite distinct, and each granule was surrounded by a ring of vascular injection; the organ was of natural size, perhaps slightly softened in its tissues, giving out, when pressed, a moderate quantity of thin, bloody fluid. The gall-bladder contained a moderate quantity of viscid bile, of the colour and consistence of the dregs of molasses.

The spleen was large, but probably not beyond the normal size; it was decidedly softened, but not congested; bluish externally, internally of a dull brown colour. Pancreas and kidneys healthy.

In this case, the thickening of the coats of the stomach and intestines, the hypertrophy of Peyer's glands, was evidently an ancient affection, long antecedent to the attack of fever.

Case IV. A boy, ætat. fourteen years, of good constitution, was taken with symptoms of remittent fever while on the voyage from Georgetown, S. C., on the 13th of August. He entered the New York Hospital on the 24th. It appeared that he had received no medical attendance, and that his personal comfort had been much neglected, so that at the time of his admission, he was quite feeble and cold. Stimulants, however, revived him, so that in the evening there was high febrile excitement; but his intelligence was good, his tongue moist, his abdomen free from tenderness.

25*th*. Remission; no nausea; no abdominal tenderness; pulse accelerated; skin cool. Ordered quinine. In the evening, an exacerbation with restlessness and general pain, came on; the restlessness continued to increase and became excessive; the skin cold; the pulse so feeble that it soon ceased to beat; the intellect unimpaired. Death occurred in about one hour after the urgent symptoms were noticed.

Post-mortem examination sixteen hours after death.

Head natural.

Lungs somewhat congested in the lower lobes; traces of bronchial inflammation.

Stomach.—The mucous membrane was generally of a pale, brownish tint; on the anterior surface, a large, pinkish patch, from pointed injection was noticed. A dirty, viscid mucus adhered to the membrane, which, in the cul-de-sac, appeared slightly thickened, but everywhere of natural consistence; no follicles noticed. The organ contained a considerable quantity of a dirty, brownish-yellow fluid, of a sour smell.

The mucous membrane of the duodenum presented the same brownish tint as the stomach, but no injection, no softening or increased thickness. The small intestines were healthy, presenting in different parts patches of venous injection. The glands of Peyer were unusually distinct, but not apparently diseased; also the isolated follicles near the extremity of the ileum. The large intestines were healthy.

The *liver* was of the natural size. Externally, it presented a bluish-gray colour, with patches of bronze, especially on the anterior surface of the right lobe; internally, the organ was of a dull brownish hue, with a tinge of green and yellow, (olive.) The capillary vessels of the liver were unusually distinct, forming delicate circles, and, where most numerous, giving the part a reddish hue. The liver, however, was not loaded with blood nor softened in its tissue. The gall-bladder was full of a dark viscid bile, like molasses.

Spleen enlarged, rather softened and congested.

Kidneys natural.

Case V. A young man, ætat. about twenty-five years, was brought to the New York Hospital at about 6 P. M., Aug. 28th, 1844. He was at that time able to walk from the main to the north building; his pulse was of good strength, and he was in the full possession of his intellect. He stated that he had lately come from New Orleans by the Mississippi and Ohio rivers, and that during the voyage he had indulged in dissipation; that he was taken ill at Wheeling twelve or fourteen days previously with symptoms of fever, viz., chills followed by heat, pain in the head and limbs, vomiting, loss of appetite, &c., and that he had continued ill ever since. About 8 P. M., he was seen again by the resident physician and found to be rather feeble and sinking; a little wine was ordered. At 9 P. M., I found him in a state of collapse; skin cold, nearly pulseless, excessive jactitation, complaining of severe pain in the thighs, but of none in the head or abdomen; intellect not affected. His tongue was slightly coated but moist; he had retched once since his admission, but had not vomited or purged. The free use of stimulants internally and externally did no good. He died at 10 P. M.

Post-mortem examination thirteen hours after death.

Head natural; slight subarachnoid effusion.

Lungs somewhat congested with venous blood and frothy serum in the lower lobes; bronchi containing frothy mucus; livid from submucous injection.

Heart natural.

Stomach of natural size, containing about a pint of dirty yellow fluid mixed with mucus. The mucous membrane, more or less covered by viscid mucus, was generally of a dusky red colour, less marked along the lesser curvature, and least of all in the pyloric portion. This redness, when carefully examined, was found to be formed by minute points, in many parts so closely clustered as to form spots. A portion of the posterior surface was tinged green, probably by bile. The membrane generally was mammillated and thickened, but this existed in the most marked degree in the cul-de-sac, diminishing towards the pylorus, (hypertrophy.)

The mucous membrane of the duodenum was of a dusky red colour for the first inch from the pylorus; the remaining portion was of a dirty yellowish-green colour; it appeared natural in consistence and thickness, and the mucous follicles did not appear at all enlarged. The mucous membrane of the jejunum was also tinged with the same dirty yellow or greenish colour, most marked about the upper portion, and which gradually disappeared in the ileum. The glands of Peyer were very distinct, from their pale white colour contrasting strongly with the dirty hue of the surrounding mucous membrane. The glands, however, as well as the mucous membrane, were neither thickened, softened nor injected, save a little venous arborescent injection in a few portions. A few enlarged, solitary follicles, were also noticed near the end of the ileum. The large intestines were healthy. The mesenteric glands were generally hypertrophied, but natural in consistence and colour.

The *liver* was of natural size; viewed as a whole externally, it presented a pale slaty colour, and in many parts a bronze tint was very perceptible; internally, it presented a dirty olive colour—the granular structure of the organ being perfectly distinct. Its tissue seemed a little softened, and when pressed, gave out a trifling quantity of thin, bloody fluid; there was no vascular injection. Gall-bladder nearly empty; its lining membrane merely covered with the residuum of rhubarb-coloured bile.

Spleen enlarged, but not softened or congested.

Kidneys healthy.

It will be perceived that, in the five cases above detailed, the peculiar condition of the *liver*, which Dr. Stewardson has assumed as the *anatomical characteristic* of remittent fever, was uniformly found. I am aware that the case last stated is too meagre in its details to deserve much consideration, and that a rigid observer might entertain doubts as to its genuineness. It would not have been introduced, had not its pathological characters corresponded perfectly with what was noticed in the other cases, and had not the history, so far as it could be obtained during life, given me the same impression even before the post-mortem examination was made. Indeed, the symptoms of collapse were so precisely similar to those noticed in two other cases of undoubted remittent fever which presented themselves during the past season, and one of which terminated fatally, that I think, all things considered, but little doubt can exist on the subject. Two important considerations naturally present themselves here. First, what is the nature of this condition of the liver? The only positive change that I have been able to observe is that of colour—the slaty and bronze tint externally, the olive tint internally. It is true that a slight degree of softening of the tissues seems to exist in connection with this change of colour, but this has, in all my cases, been very moderate in degree, and, in one of the best marked cases of the disease, extremely doubtful. All will admit, I think, who have examined such cases, that there is no evidence of inflammation in the changes noticed, for although some degree of capillary injection existed in two of the cases, yet in the remaining three it was entirely absent. The natural size of the liver, the absence of lymph or pus, the small quantity of blood yielded by pressure, as well as the local symptoms during life, especially the absence of pain and tenderness over the region of the liver, tend to confirm the same idea. It appears to me not an unreasonable conclusion to suppose that the change of colour is produced by the action of the bile, especially when we remember the appearance of this secretion as observed in the gall-bladder.

Another important fact to establish is, whether this appearance of the liver may not be found in other diseases, and particularly in other forms of fever. This question can only be settled by long and multiplied observation. I can only say that, in six fatal cases of continued fever, four of which originated on ship-board and two in this city, no such condition was found, and that after careful examination with this object in view.

Dr. Stewardson, in his Essays, has attached much importance to the pathological condition of the stomach and duodenum, and is disposed to believe that inflammation of the mucous membrane of these organs is an important and frequent feature in the disease. I am unable to confirm this opinion. Most of the changes that I have observed in the mucous membrane of the stomach have appeared to me of a chronic nature, and probably long antecedent to and entirely independent of the acute disease. I refer particularly to the thickened and mammillated condition of the organ. The injection of the mucous membrane, although present in all the cases to a certain extent, did not appear to me beyond what is commonly noticed in other acute diseases, and might, in some cases at least, be referred distinctly to simple post-mortem venous congestion. The symptoms during life appear to me to strengthen this idea. The patients very seldom complained of pain in the region of the stomach, and although slight tenderness on pressure was frequently noticed, yet this did not exceed, I think, what is noticed with equal frequency in other febrile affections. As well might we refer the thirst and loss of appetite that attend all affections of this class to the same cause. The presence of vomiting in many cases might seem at first to strengthen the opinion Dr. Stewardson has formed on this point, yet a careful study of this symptom has brought me to a different conclusion. As the general rule, I think, vomiting occurs early in the disease. In many cases, it appears to have a direct connection with the early chills. The same fact is noticed in cases of intermittent fever, and yet no one can suppose that inflammation has any thing to do with its production, since the patients can eat, drink stimulants, and use quinine with perfect impunity a few hours afterwards. In other cases, it is probable that the attempt to use improper food, which the stomach could not digest, may have induced this symptom in patients not yet subjected to medical treatment. At all events, the vomiting usually ceased after the admission of the patients, or became so infrequent and mild as to require no particular treatment. Finally, this view of the subject is still further confirmed, and this, I think, is the most important point of all, by the ease and evident advantage with which patients were able to use large doses of quinine and stimulants, in many cases during the height of the disease. Indeed, I am disposed to look upon these remedies as our chief dependence in bad cases of remittent fever. Dr. Stewardson also remarks, that traces of inflammation exist on the mucous membrane of the duodenum, and notices particularly an enlarged condition of the mucous follicles. This view, also, I have been unable to confirm. Indeed, so far as the local evidences of inflammation are concerned, the *lungs* were the organ most decidedly affected in the few cases I have examined. In two of the fatal cases, undoubted traces of pneumonia were found.

The mucous membrane of the intestinal canal, excluding the evidences of chronic disease, or of disease that had probably for a long time entirely ceased to exist, was found healthy. The symptoms during life confirmed this opinion. The absence of diarrhœa, of abdominal pain and tenderness, of tympanitis, the ease and even the feeling of relief with which purgatives acted, all go to prove the absence of at least inflammation in those important organs.

There is no point more interesting in the pathology of fever than the condition of *Peyer's glands.* Every one, I suppose, who has examined the subject with attention, will admit that these glands are commonly found inflamed in the continued fever of this country, both in the cases originating on shore and on ship-board during the passage from Europe. Still it is incontestable that cases do occur, principally, perhaps, in an epidemic form, in which these glands are not affected. Dr. Gerhard, of Philadelphia, now happily restored to science, has shown this in an epidemic fever which prevailed in that city a few years ago. The same thing has been also observed in this city under quite different circumstances in an epidemic ship fever which prevailed to a frightful extent on board two vessels bound to this port from Liverpool in the spring of 1836. In one of these vessels, the Garonne, there were two hundred passengers, of whom two-thirds were affected with fever. Twenty of these cases were admitted to the New York Hospital, and five of them terminated fatally. In all of these, the glands of Peyer were carefully examined and found perfectly healthy. The brain and the lungs presented more evidences of disease than the abdominal organs. These cases were reported in the *New York Journal of Medicine and Surgery* for 1839, by Dr. N. Shook, formerly resident physician to the hospital.

The opinion prevails in New York, that inflammation of Peyer's glands may occur, also, in cases of remittent fever. This opinion has been strengthened by the post-mortem examinations made at the hospital, in 1840, by Dr. Richardson, resident physician for that year, and published by him in the above-mentioned Journal for 1841. Six cases of what was regarded as remittent fever, probably all the fatal cases which were examined during the season, are reported, and, *in all*, the glands of Peyer are stated as being affected. I feel inclined to offer some remarks upon these cases even at the risk of appearing tedious.

Case I. was a patient from Bermuda, who died in a state of stupor after having been eight days in the hospital. "The oval plates of Peyer were enlarged through the whole course of the ileum, but none of them ulcerated. The liver was very much enlarged, of a slate colour, and softened." This was probably a case of remittent fever.

Case II. was a patient who came from Richmond, Virginia—who also died while in a state of stupor, about three weeks after admission to the hospital. In this case, "in the lower portion of the ileum, the oval patches were enlarged but not ulcerated. The liver was considerably enlarged, of a dark slate colour, and softened. The gall-bladder was full of dark, tenacious, tar-like bile." This case, also, was probably one of remittent fever.

Case III. was an Irishman, who came from the Croton water-works, and who died on the fourteenth day with symptoms of acute peritonitis, which came on a few hours before death. The case was undoubtedly one of fever, but the symptoms detailed are too meagre to enable me to form any decided opinion as to the form of fever. On post-mortem examination, acute peritonitis from perforation of the ileum was found. "The aggregate glands of Peyer, from the middle of the jejunum to the termination of the ileum, were found in the different stages of disease, from simple enlargement (as in the jejunum) to ulceration, with *elevated, inflamed, irregular edges*, and, in one spot, as above referred to, perforation of all the coats. The mesenteric glands were swollen, and some of them contained pus. The liver of rather *light colour*, not softened. The gall-bladder contained about an ounce of yellow, watery bile." No one, I think, who has been accustomed to examine cases of fever, can fail to detect here the appearances of continued fever. I suspect that the diagnosis of this case was wrong.

Case IV. was a sailor, from Darien, Georgia, who had been ill a week. "Nothing definite could be learned of his symptoms before admission. He was found extremely feeble and prostrate; skin yellow; countenance sunken; body emaciated; intelligence pretty good; has no pain, tenderness or swelling of abdomen; bowels open, no diarrhœa; tongue white; pulse very feeble and frequent; extremities cold; very restless. He continued to sink gradually, notwithstanding the free use of stimulants, and died on the fourth day after admission."—"Through the whole length of the ileum, the oval patches of Peyer were enlarged, and, for the space of about twelve inches from the ileo-cæcal valves, were in a *state of ulceration.* The ulcers were of irregular shape, with elevated edges. Liver *congested*; gall-bladder filled with a very thick, tenacious bile; spleen enlarged and softened." The circumstances which favour the idea of remittent fever in this case, are the place of its origin and the yellow state of the skin; but are these conclusive as to its nature? I think not. I think we have had, the past season, in the hospital, a perfectly well-marked case of continued fever, which originated in the region where the remittent fever is also supposed to prevail, (Norfolk, Va.) As to the yellowness of the skin, I shall say nothing. The history of the case is very imperfect; we know nothing of its early history except its origin. After admission, the symptoms were those of sinking, and not in the least characteristic. The post-mortem appearances were those usually noticed in cases of continued fever.

Case V. was also a patient from Darien, Ga., who was taken decidedly ill about two days before admission, having previously complained of slight illness. He soon became delirious, then stupid. In this state he was brought to the hospital. His skin was cool; his pulse of moderate force and not frequent. This state continued for two days under the use of stimulants. He then became restless and delirious, and died in less than twenty-four hours. Marked venous congestion existed in the brain. "In the ileum, the oval patches of Peyer were found enlarged throughout its whole course, and most so in the lower portion near the ileo-cæcal valve. One of these patches presented *numerous small ulcers.* The mucous membrane was not altered between the patches. Spleen three times its normal size, and very much softened. The liver was enlarged, of a dark slate colour, and very much congested with blood." Notwithstanding the very imperfect history of this case, I am, on the whole, inclined to regard it as one of remittent fever, but suspect that actual ulceration, or even inflammation, did not exist. The reason for this opinion I will state in another place.

Case VI. was a sailor just arrived from Wilmington, N. C., who had been ill a few days, but no account is given of his previous symptoms. He was in a state of stupor when he entered the hospital, but soon revived. He continued a little stupid, with accelerated pulse, warm skin and much debility;

he soon passed again into a state of stupor and died on the sixth day after admission. The vessels on the surface of the brain were congested; lungs congested—the mucous membrane of the stomach was inflamed. "The mucous membrane of the intestines was reddened and softened throughout the whole track. In the ileum the oval patches of Peyer *were enlarged.* In the colon were numerous small ulcers; liver enlarged, of a dark chocolate colour and softened, bile like thick tar. Spleen enlarged and softened." The condition of Peyer's glands in this case was similar to that noticed in Case I. and II. It was probably a case of remittent fever.

In the above abstract of the six cases reported as cases of remittent fever, I have attempted only to present some of the more important facts. I must beg leave to refer again to the cases themselves for all the rest that is known in relation to them. Those who will take the pains to peruse them carefully, I think will agree with me, that they are generally too imperfectly reported, especially as to their *ante mortem* history, to enable us to form any decided opinion as to their nature. No one knows better than those attached to hospitals the difficulty that frequently attends the diagnosis of diseases; especially when they present many points of resemblance, when they constitute varieties of the same disease as in the present instance, rather than distinct species. The fact that a large number of cases are constantly under observation, while it ought, and with proper attention does, tend to improve the accuracy of diagnosis, will not protect us from the influence of certain prepossessions which may throw us off our guard, and lead us into great error. Thus the daily habit of examining new cases of fever coming from a certain locality, and which are generally found to belong to a certain type, the remittent for instance, may lead us to overlook and confound the occasional cases of a different type that present themselves under the same circumstances. In the New York Hospital the cases of Southern fever, occurring almost entirely among sailors, are placed in the Marine building and usually in the same wards. So that nothing is more easy than for the physician, on entering these wards, and finding a case of fever, to suppose that it is a case of the remittent type, and if the patient is too stupid to give an accurate account of his previous history or even of his present feelings, and death speedily occurs—the observer may continue under the influence of his first ideas, and even carry them to the autopsy room. Yet I am disposed to believe, that cases of genuine continued fever, do originate under circumstances where the causes of remittent fever are most likely to have affected the patient; that their true nature may be entirely overlooked from inattention. This I believe may have happened in some of the cases that I have ventured to criticise above. But that I may not suspect others on a point where I have, perhaps, erred myself, I will state a case where the same error was, I think, committed.

A patient entered one of the wards of the New York Hospital in which cases of remittent fever are usually placed. He had just arrived from a southern port. Being a foreigner, speaking English but imperfectly, and being besides rather stupid from his disease, the history of his case was very imperfect. It was regarded, however, as a case of remittent fever. The patient continued stupid and soon died. I went to the autopsy with the same impression, but on entering the room, my senior Walker, called my attention to some sudamina upon the neck which had not been before observed. This first excited my suspicion that an error in the diagnosis had occurred. For I had never seen sudamina in any case of remittent fever, although they have been carefully looked for, while they are common in continued fever. The post-mortem examination confirmed this suspicion; all the usual post-mortem appearances of continued fever were found, while those of remittent fever were wanting. I left the autopsy room with my opinion of the case very much modified, to say the least.

Case VI. Daniel Hoffin, ætat. 35 years, native of Finland, seaman, entered the New York Hospital Oct. 6th 1844. The patient, at the time of his admission, was rather stupid, and spoke the English language quite imperfectly. It was only ascertained that he had arrived from Savannah a week previous, and that he had been ill five days.

August 7th.—Complains of headache, cheeks flushed, considerable dulness approaching to stupor; has bled once or twice from the nose; no yellowness of the eyes. Tongue covered with a dirty white coat, rather dry; pulse 120; skin warm, (early in the morning, pulse 104,) no vomiting, no tenderness or fulness of abdomen. Last evening, calomel grs. x., followed by oil this morning; this produced free passages of a thin dark bilious matter. Respiration pure.

8*th.* Stupor; face flushed and livid; eyes injected, rather yellow; tongue dry and brown; abdomen soft; one stool, copious, of a dark greenish-yellow fluid. Pulse 128, feeble; skin hot. Last evening the pulse was 102, and early this morning 104. Has taken quinine this morning,—ordered twelve leeches to head. Ice.

9*th.* Leeching, although the discharge of blood was free, produced no relief—in the evening the head becoming rather cool, the ice was discontinued—coma, pupils dilated. Patient, as he lies on his back, frequently turns his head with a rapid convulsive motion from side to side. Skin generally warm, but head cool; pulse 132, regular. Bowels freely moved this morning. Blister to nucha.

10*th.* Blister drew well, but no improvement; patient died at 7 A. M.

Post-mortem examination, 4 hours after death. General rigidity; the usual post-mortem lividity about the back and nates; a *few sudamina* noticed about the neck; no tympanitis. The deep cervical glands on the right side were enlarged, with softened tuberculous matter in their interior.

Head.—On removing the skull, a large quantity (6 ounces at least) of dark fluid blood flowed from the sinuses; two ounces of bloody serum in the occipital fossa. Veins on the convexity of the brain moderately distended—moderate subarachnoid effusion; a few thread-like adhesions of considerable firmness, between the opposite surfaces of the arachnoid: the membranes peel off naturally. Cortical substance of the usual pale, ash colour. Medullary substance much more dotted with dark points than usual, especially posteriorly; cerebral substance of natural firmness; ventricles not distended: plexus choroides containing vesicles and granules, not congested (*traces of ancient arachnitis; marked venous congestion.*)

Thorax.—Lungs natural; moderate hypostatic congestion; bronchi natural. Heart firm, contracted, containing very little fluid blood. About half an ounce of serum in the pericardium; none in the pleura.

Abdomen.—Stomach of natural size; mucous membrane of an uniform pinkish-brown colour, formed by minute points close together, and covered by a thin layer of dirty viscid mucus; the stomach contained a small quantity of thin yellowish fluid. The mucous membrane was also much more thick and firm than natural, presenting large and prominent transverse folds not easily obliterated by pressure; it was not mammillated, neither were any enlarged follicles noticed. The muscular coat was also thickened, (hypertrophy). The mucous membrane of the duodenum and of the upper portion of the jejunum appeared rather thick and firm, and stained by healthy bile; below the jejunum was natural. The glands of Peyer were generally prominent and enlarged, the elevation and distinctness increasing from above downward. In the neighbourhood of the ileo-cæcal valve they were of a gray colour, with the orifices appearing like black points, and in some portions much thickened, softened and red from capillary injection, but not ulcerated. The mucous membrane in the lower portion of the ileum was much injected, chiefly with venous arborescence, mixed however with bands of bright red, formed by minute capillary points in which the membrane was softened. Large intestines, the seat of considerable venous congestion, otherwise healthy. Larger abdominal veins not congested; mesenteric glands slightly enlarged and red. Liver rather large and soft, containing considerable venous blood; externally of a reddish tint mottled with blue from venous congestion; internally the usual intermixture of red and yellowish spots presented itself. Gall bladder, containing a considerable quantity of dark, greenish bile. Spleen twice the common size, dark blue, congested and a little softened. Kidneys congested, otherwise healthy; bladder full of urine of natural appearance.

Having advocated the possibility of a mistake in the diagnosis of the remittent fever during life, I am still disposed to admit that most of the cases (three or four) published by Dr. Richardson, were cases of this form of fever. It remains now to show, how he might have been led into error, in supposing the glands of Peyer diseased. I suppose that every one will admit that when these glands are affected in fever, that it is a recent affection, the result of acute inflammation, and that we should, of course, expect to find something more than simple enlargement of these glands; that we should expect to find softening and injection of the tissues as well as ulceration. In the cases, No. I., No. II, No. V., No. VI., reported by Dr. R., and which appeared to me best marked as cases of remittent fever, both by the history and the post-mortem appearances, especially by the condition of the liver; in three of these, the glands of Peyer are described as simply enlarged without other change. Is this any proof that they were the seat of acute inflammation? By reviewing my cases, it will be found that in four out of five, these glands are spoken of as unusually distinct, but this was owing in three cases to a mere difference in *colour.* They were neither elevated, softened nor injected, but simply by their pale white colour, strongly contrasted with the dirty hue of the surrounding mucous membrane. The explanation appears to me this; that the bile or some other secretion had stained the mucous membrane while the glands were not thus affected. I may, I think, reasonably ask whether this same condition did not exist in some of Dr. R's. cases, and whether this unusual *distinctness* of the glands was not mistaken for enlargement. But in my fourth case, (Mayo,) these glands were enlarged; were evidently hypertrophied; so also was the whole intestinal canal as well as the stomach in all their coats, and this existed with increased firmness of the tissues but without the least appearance of injection or ulceration. There can be no doubt that all these changes were long antecedent to the attack of fever, and if dependent on inflammation at all as to their origin, this had long also entirely subsided. In Case No. V. recorded by Dr. R., and where the slate-coloured liver was found, besides the general enlargement of Peyer's glands, but still with no mention of injection or softening, one patch alone is described as presenting numerous small ulcers. Every one accustomed to examine cases of fever would, I think, be rather surprised to find a single patch only, studded with small ulcers—this is not the usual appearance. But might not these small ulcers have existed only in appearance? I have repeatedly, in examining Peyer's glands, observed a reticulated or honeycombed appearance of their surface which at first presented very much the aspect of small ulcers, but yet which, on careful examination, especially with the microscope, appeared to be nothing more than a slight hypertrophy of the mucous membrane covering these patches, or perhaps even a congenital formation; for with this there was no appearance of disease, especially of recent disease. Finally, in the two cases where distinct and unequivocal evidences of inflammatory ulceration of Peyer's glands existed, (Cases III. and V.) there is much probability, I think, that they were cases of continued fever; the characteristic colour of the liver was entirely wanting; the history of the cases is extremely unsatisfactory; and one of them (Case III.) came from a locality where continued fever was quite as likely to prevail as the remittent form.

In the above remarks some may think that too much stress has been laid on the post-mortem appearances in the diagnosis of the different forms of fever. I believe, however, that those will not think so, who agree with me in believing, that while the most careful attention at the bed side is necessary to the correct diagnosis of disease, yet that the truth of opinions formed there must be confirmed or refuted in the autopsy room. The great value of Dr. Stewardson's observations on remittent fever, especially as to the peculiar condition of the liver, if future observation should confirm their correctness, will consist in the aid they afford to the correct diagnosis of the disease. But who shall say that their influence will not also be felt in the treatment? Certainly not those who believe as I do, that the multitude of conflicting opinions as to the treatment of diseases result mainly from errors in diagnosis.

New York, Nov. 1844.

[We append to the preceding very valuable and interesting paper, the following case of remittent fever with the autopsy, communicated, by Dr. Wm. T. Howard, to Dr. Stewardson, through whose kindness we are indebted for it. The anatomical character of the liver coincides entirely with that observed by Drs. Stewardson and Swett.]

Case of Remittent Fever; death; autopsy. By Wm. T. Howard, M. D. —Andros Pope, ætat. 40, a German, and common day-labourer, had been living for some months past, about fifteen miles from Baltimore, in a malarial region of country, annually visited by intermittent and remittent fevers. He was admitted into the hospital, Aug. 16th, 1843. His condition was such, that little satisfactory information could be obtained in reference to the history and mode of attack. It could only be learnt that he had been sick some six or eight days; had had six or eight chills and fevers; suffered much from headache during the febrile paroxysm, and experienced much general uneasiness. At the moment of admission, his mind was wandering, and he complained much of cephalalgia; he had fever, with a pulse of 96 per minute, and considerable tenderness over the epigastrium and right hypochondriac region. The *spleen* was enlarged and felt below the ribs.

Evening of the same day. Skin rather cool and moist; head somewhat clearer, though still painful; tenderness still over the epigastrium and right hypochondrium; pulse 92.

17*th.* This morning, skin hot and dry; great cephalalgia; pulse 96. He was ordered sul. quinine, ℈i., in solution, to be taken at once. One hour afterwards, the skin was slightly moist and cooler. Sul. quinine, ℈i., in solution, was again administered.

Evening of the same day. Skin cool and moist; pulse 85; less cephalalgia. Other symptoms little altered. Sul. quinine, ℈i., was ordered to be given at 12 o'clock. The patient expired about daylight on the morning of the 18th.

The patient had several epileptic fits during the day following his admission, both before and after the administration of quinine, each lasting about a minute or little more. He had been subject to them before his present attack. His mind was never clear after admission; and during the last twenty-four hours preceding death, slept during nearly the whole time, and was with difficulty aroused.

Autopsy ten hours after death.

Exterior.—Excessive rigidity, slight emaciation.

Head.—Slight effusion of blood under the arachnoid membrane, which membrane was slightly opalescent, and separated with great facility from the convolutions. The surface of the brain was of a marked pinky hue; and the cineritious portion was of a much redder colour than usually met with. The difference between it and the medullary portion well marked. When cut into, the surface seemed red, from the number of small vessels containing blood. The ventricles contained some little serum; and the veins traversing their surfaces were enlarged. The *choroid plexus* contained a number of hydatiform bodies. The substance of the brain normal.

Abdomen.—The liver extended below the ribs about two and a half inches, and encroached upon the stomach on the left side, which was largely distended, and reached below the umbilicus. The liver was smooth externally, and of a uniform slaty, bronze colour, marked with white striæ through it. When cut into, it presented the same uniform slaty, olive or bronze colour, with the red and yellow substances confounded together, so as not to be distinguished. Moist when cut into, its vessels not much gorged with blood, and easily penetrated by the finger. No one portion more changed than another. Gall-bladder contained about ℥iv. of bile, apparently healthy.

The *spleen* was nine inches long by about four in thickness. It was a perfect pulp, resembling in colour the damson juice; and when deprived of its envelope, not admitting the slightest handling.

Stomach.—This organ was large, and very much distended with gas. It contained a coat of viscid, glairy mucus, covering its entire surface, and scraped away with difficulty by the handle of the scalpel. The mucous membrane below, of a uniform pinky hue, soft and slightly thickened, giving, at the pyloric extremity, flakes half an inch long; in the great cul-de-sac, three to four lines. The mucous membrane slightly mammelonated; and when exposed to the air for some time, assumed a more florid hue. In the *duodenum*, the mucous membrane still more mammelonated, and the red colour more marked than in the stomach; friable, and presenting more evident traces of inflammation. The *jejunum* and *ileum* evinced little alteration; the mucous membrane somewhat softened, but normal as to colour. The glands of Peyer and Brunner alike perfectly normal, and only to be discovered by close inspection. Both these intestines contained a considerable quantity of mucus stained by bile. The *colon* contained some fœcal matters mingled with mucus, and presented a few points of red injection. The bladder and kidneys natural.

Thorax.—The lungs were in their normal state. Their inferior posterior portions yielded a slight frothy serosity when cut into. The heart and great vessels contained blood not coagulated.

BALTIMORE ALMSHOUSE, Jan. 8th, 1844.

ART. III.—*On the Treatment of Yellow Fever.* By F. WURDEMANN, M. D., of Charleston, S. C.

THOSE who have had frequent opportunities of observing yellow fever, know that it is often modified in different epidemics. It is in one so mild, that patients get well under almost every treatment; while in another, the action of an emetic or drastic cathartic at the commencement of the attack will place the case beyond the control of medicine. The "ten and ten" grain doses of calomel and jalap, which were so successful in the hands of Rush, have long been abandoned by the Southern practitioner; and salts and senega, once a popular remedy, are now only empirically prescribed. The present paper has been written chiefly to show the relative mortality in what may be called the mercurial treatment, and another which I now consider better adapted to the nature of the disease.

If I were asked what was the most prominent pathognomonic symptom in yellow fever, one that most distinguished it from those cases of remittent bilious fever complicated with gastritis, so prevalent during epidemics of the former, I would answer, the total cessation, or the much diminished and vitiated secretion of bile. For although it is sometimes ushered in by bilious vomiting, the bile thus ejected has been mechanically forced from the gall-bladder, where it had been collected previous to the attack. It is very certain that the restoration of the functions of the liver is the most favourable symptom in the course of the disease. The physiognomy of yellow fever differs also from that of the most aggravated cases of remittent bilious fever. In the former, there is a peculiar glassy appearance of the eyes, even when they are but slightly red; an anxious expression of the countenance, that the real or assumed calmness of the patient cannot entirely control; and a constant, but more or less strongly marked torpor of the cutaneous circulation, evinced by the slow return of blood pressed by the finger from the injected capillaries, as if these vessels were in a state of passive hyperemia.

From the prominent symptoms in yellow fever, the effects of remedial agents and the autopsies I have made, I am free to confess that I believe it to be distinctly congestive; that, so far from gastro-duodenitis and hepatitis being present in every case, the vessels of the mucous membranes of the stomach, and, in bad cases, of the duodenum, are in a condition of passive hyperemia, and the liver in one of anemia. Cases are occasionally ushered in with gastritis and cerebritis, and these are generally fatal; but I have often been able to trace inflammation of the stomach, when present, to the injudicious use of emetics and drastic cathartics.

During the epidemic of 1838, that followed the extensive conflagration which laid waste nearly one-fourth of the city of Charleston, South Carolina, the congestive type of the disease was very distinct; many of the cases terminating in passive hemorrhages from the gums, from blistered surfaces and from scarifications of cups, and, in some, from the intestines. The city had been crowded with Irish labourers and northern mechanics, who had been engaged to rebuild its burnt district, and who, as strangers, were obnoxious to the malaria. This generated from numerous exposed cellars filled with stagnant rain-water, and from a large quantity of oyster-shells, recently removed from their muddy river beds and spread over several streets, was more rife than it had been for many years, and the epidemic spread rapidly over the whole city.

The number of cases that came under my care was 191, of which 25 died. About ten were mild, which will leave 181 well marked. Three-fourths of the subjects were addicted to the free use of ardent spirits, and many of the Irishmen, believing that the pains in the back and limbs proceeded from a "cowld," Anglice cold, had begun the treatment by hot whisky punch.

Two patients became sick while using daily more than a pint of brandy, and were deeply intoxicated when attacked. One, a mass of bloated flesh, died; the other, a Pole, whose whole surface was for several days mottled with red and purple, recovered. One woman, an Italian, was moribund when I first saw her; another, an elderly Irish woman, had black vomit, which ceased under the treatment; but the alvine evacuations, which were of the colour of pipe-clay and consistent, continued devoid of bile, and she died, apparently, in a state of anemia, on the fourth day after the cessation of the vomit: neither had had any previous medical treatment. Another Irish woman died soon after eating, during her convalescence, seven green apples. One was near the term of her gestation, and gave birth to a fine, healthy child, that throve and was alive the year after. The labour began in the last stage, and soon after I had removed the placenta, which was attended by less than the usual hemorrhage, she threw up black vomit, and died in a couple of hours. To give a fair estimate of the efficacy of the treatment, these should be deducted from the deaths, which will leave 20 in 176 cases.

The first and larger number of my patients were treated by the mercurial plan. When called to them in the first stage, and even in the second, if the pulse could bear it, I bled freely from the arm. The subjects were, generally, robust men, and twenty, sometimes thirty ounces of blood were drawn before the pulse became soft, the chief guide to the amount of the bleeding required. Except in cases in which intense headache threatened cerebritis, the patient was placed in the recumbent posture to avoid syncope, and allow enough blood to flow to make an impression on the congested abdominal vessels. The immediate effects of the venesection were a marked abatement of the pains in the eyeballs, back and limbs; often a cessation of vomiting and a softening of the skin. If the vomiting, frequently present at the commencement of the attack, continued, sinapisms were applied to the epigastrium, and enemata administered until the bowels were acted on, when it always ceased.

As soon as the stomach could retain it, ten grains of calomel were given every two hours, and two drachms of Epsom salts, in two ounces of water, an hour after each dose, until free catharsis was produced; the salts was then omitted, and the calomel, reduced to eight or six grains, was continued every two hours. The limbs and chest were now freely sponged with cold whisky and other evaporating lotions, repeated as often as the burning heat and dryness of the skin returned; and the patient, placed on a *diète absolue*, was ordered to assuage his thirst by ice, which was given *ad libitum*. When the arterial action had thus been somewhat subdued, a large blister was applied to the upper half of the abdomen, covering the region of the liver rather more than the left hypochondrium; the beneficial effects of which were soon manifested in the increased tone of the cutaneous capillaries, the blood returning to them more rapidly after pressure on the skin. This was not so promptly produced by cupping, which I entirely abandoned for the blister. The pains in the head and back would also subside, and, in some cases, strangury ensue, a certain sign of the breaking up of the disease.

The mercurial fetor was perceived in a few cases in thirty-six hours, and in many the gums were swollen in from two and a half to four days. It was only then that thin gruels were given, unless previously required by the protraction of the case. When indicated, revulsives to the extremities, to the inside of the thighs, and nape of the neck were employed; but the chief object was to produce ptyalism, which I then considered the safeguard of the patient. I have, however, seen cases in which black vomit was brought on, after it was well established, by the administration of a mild cathartic.

When, instead of the mercurial action on the gums, a passive hemorrhage ensued, the calomel was omitted, and the following mixture given: Peruvian bark, ℥ss., boil in ten ounces of water for about fifteen minutes; then infuse in the hot decoction two drachms of serpentaria Virginiana, and, when cold, add to the mixture one to two drachms of elixir vitriol, according to the degree of the hemorrhage; two tablespoonfuls to be given every two hours. This mixture acted so well that I began to consider the hemorrhage as a sign that the case had become manageable. I have seen black vomit in several instances appear during its continuance; but about three-fourths recovered, although some patients in whom it had continued for seven and nine days, were first reduced to an almost complete state of anemia. Nitrate of silver, chloride of soda and various astringent lotions were found of no avail to check the bleeding; ice alone seemed to produce a temporary contraction of the vessels, and diminished the fetor of the putrid blood better than the chloride of soda. The diet was in this stage increased, and animal broths given freely.

The loss by this treatment was one in seven; it must, however, be remembered that the first cases of the epidemic are the least manageable, probably from the high susceptibility of those first attacked to the influence of the malaria; on the other hand, the sick, during the cold days of October, also present obstinate cases, and, at the best, frequently run into typhoid fever. None under the mercurial treatment recovered after black vomit. In one child, five years old, and in a lad fifteen years of age, who had been rendered almost exsanguineous by previous repeated attacks of intermittent fever, sloughing of the cheek ensued during the prostration of the vital forces by the passive hemorrhage. In a Pole, also, to whom a drunken nurse had given 120 grains of calomel, by mistake, in twelve hours, and in whom the rapid occurrence of hemorrhage prevented the administration of even a mild aperient, exfoliation of some portions of the alveolar processes took place during convalescence. On the whole, it was clearly evident that calomel in the last stage was injurious, and caused black vomit in cases which, if treated even by *la mèdecine expectante*, might have got well. Even during convalescence, a mild dose of Rochelle salts often brought on a return of fever and a train of dangerous symptoms.

Thus warned of the injurious effects of all irritants of the digestive tube in the third stage, I modified the treatment in my other patients. After the first free bleeding, and the purgation by calomel and Epsom salts, and the application of the blister to the upper half of the abdomen, the calomel was continued every two hours in five grain doses, until the peculiar green tinge in the alvine evacuations indicated its action on the liver. Its use was then abandoned, and the bowels were kept free by the use of enemata of warm water throughout the disease and during convalescence. The following mixture was given after the calomel had been stopped, and, notwithstanding that, soreness of the eyeballs and frontal headache still in a measure remained, they being sympathetic of the gastric affection:

℞.—Bi-carbonate of Soda, ʒss.
*Paregoric Elixir, ʒss.
Gum Water, ℥vi.
} Give two tablespoonfuls every two hours.

The sponging of the surface while hot and dry, the free use of ice, and the *diète absolue* were prescribed, as in the mercurial treatment, during the first and second stages. Under the soda mixture, the prominent symptoms soon began to subside. The soreness of the eyeballs, forehead, limbs and back was relieved; the skin became soft, and the patient no longer asked for the cold affusions, which before were peculiarly grateful to him; the tongue lost its red and pointed tip and edges, and if previously of a shining red, became covered with a white soft fur, and the alvine evacuations became freely mixed with yellow bile. In the last stage, when the symptoms threatened the secretion of black vomit, warm poultices, mixed with mustard, if the blistered surface had healed, were applied to the abdomen, and sinapisms to the calves of the leg; I have thought that much advantage was obtained by blisters to the inside of the upper third of the thighs.

If black vomit appeared, the same treatment was pursued, except that the patient, if he had previously been allowed gruels, was restricted to the use of ice in rather moderate quantities to quench his thirst, and the soda mixture was given in one tablespoonful dose every hour, the quantity being diminished one-half for children. In the latter, the thirst for about six hours was intense, but a tablespoonful of water renewed the vomiting, and the little sufferers were allowed to allay their thirst only by sucking pieces of ice enveloped in linen. Twelve hours after the cessation of the black vomit, boiled gum-water was given, and the diet very gradually increased; the recovery was generally rapid and perfect.

Under this last treatment one died in nine, and seven recovered after having had black vomit: of these four were children under six years, one 12 years and two adult men; in the last the matter was of a deep bistre colour freely mingled with mucus; in all the stools had become bilious before the black vomit appeared. Although several cases, in which the black grumous matter had been voided by the intestines, recovered, I have never seen one, in which it was at the same time ejected from the stomach, recover.

When called to a patient in the second stage, if the pulse did not permit bleeding, only ten or fifteen grains of calomel were given, and the soda mixture prescribed, the bowels being opened by enemata alone. In the case of the intoxicated Pole, nothing but the soda mixture was given, and he got well under its use, with enemata and revulsives. The preceding treatment was also successful, this season, in a case of congestive fever attended by remissions common to our marsh lands, which occurred at the corner of Meeting and Line streets, the northern extremity of the city. The patient, a mulatto girl, aged eleven years, threw up several ounces of black vomit during a paroxysm of the fever on the fourth day. It was checked by the soda mixture, and another remission occurring, fifteen grains of quinine were given in three hours, which stopped the fever, and the patient recovered slowly but steadily. Very few of the patients had their gums affected by the calomel, and the convalescence was more rapid than under the mercurial treatment.

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* The paregoric was made by macerating fourteen days, in two pints of diluted alcohol, opium, ʒj; Benzoic acid, ʒj; camphor, ℈ij, without the addition of honey, oil of aniseed or liquorice.

In the epidemic of 1839, which was not attended by hemorrhage, in about fifty well-marked cases, the loss was rather less than one in nine. Mingled with it was an ephemeral fever, closely resembling the other in the suffused eyes, pain in the head, back and limbs, but wanting the glassy appearance of the eye, and the anxious cast of the features, and yielding readily to a dose of magnesia and salts in twenty-four hours.

I attended several patients this year who had passed through the preceding epidemic with impunity. I have only twice attended the same patient for yellow fever; one had it after an interval of two years, and was delirious in both attacks; the other, an Irish woman, died, after an abortion, in the second year; another, whom I attended, and who died in a collapse, I was informed had had it the preceding year. In 1838, some of the patients, who were very sick, had resided in the city six and eight years.

In all the cases the free bleeding was very instrumental in breaking up the fever, and the blister in restoring tone to the congested vessels. Under the mercurial plan, the patients got well in spite of the purgation in the second stage; while by the other plan, the minimum doses of paregoric calmed the peculiar irritable state of the mucous membrane found in this fever, and prevented, frequently, the occurrence of black vomit; a larger dose would act on the brain and increase the tendency to congestion of that organ.

Art. IV.—*Observations on the Pulse of the Insane, made by the Physicians of several Lunatic Asylums in the United States.* Collected, arranged and analyzed by Pliny Earle, M. D., Physician to the Bloomingdale Asylum, New York.

Desirous of instituting a comparison between the pulse of the sane and that of the insane, in regard to its relative velocity in those two classes, a comparison founded upon more extensive data than any heretofore attempted, I, a few months since, addressed letters to the physicians of several prisons, penitentiaries and asylums for the insane, requesting them to furnish me with original observations made upon the inmates of the respective institutions with which they are connected. Having received no returns from any establishment intended for adult persons enjoying mental health, my object, so far as the comparison alluded to is concerned, remains unaccomplished. But, inasmuch as several of the medical gentlemen having charge of Lunatic Asylums complied with my request, and thus placed in my hands a mass of materials of no inconsiderable importance, I have thought it best, as far as practicable, to carry out my original intention. Accordingly, adding to their observations those made by myself, at the Bloomingdale Asylum, I have arranged and analyzed the whole in such manner as to impart some information in regard to the pulse of the insane, and to furnish one term of the comparison which I had hoped to establish.

All the observations upon the pulse herein recorded were made during the month of May; so that, in relation to season and temperature, the persons examined were placed in a condition as nearly identical as possible. In regard to some other conditions, and among them the treatment, both medical and moral, which must necessarily have a certain degree of influence upon the rapidity of the circulation, it was of course impossible to place the persons upon an equality.

The medication at some institutions is more sedative and narcotic than at others, and the habits of the patients in respect to bodily activity and exercise vary to a considerable extent. These circumstances must modify the velocity of the pulse.

Before proceeding farther, it is necessary to make a few explanatory remarks particularly intended for the medical gentlemen whose observations are herein collected.

The detailed method originally proposed for this article was necessarily relinquished from the great diversity of forms adopted in the returns; but, as the observations are now published, perhaps their object, so far as the insane are connected with the subject, may be as satisfactorily attained as it could have been under other circumstances. In arranging the several tables, some of them have undergone a considerable alteration in order to bring the whole as nearly as possible into uniformity. This has been done without affecting the results of the numbers therein contained.

The tables are arranged in the alphabetical order of the names of the physicians by whom the observations were made.

Observations on the Pulse of twenty-one Insane Persons. By JOHN R. ALLEN, M. D., Physician to the Kentucky Lunatic Asylum.

MEN.												
No.	Age.		Time	1st day	2d.	3d.	4th.	5th.	6th.	7th.	8th.	Total	Ave.
1	25	a	M	103	82	92	86	104	96	98	96	757	94.6
			A	96	84	98	92	96	95	96	92	749	93.6
2	27	ch	M	92	84	74	80	76	94	90	92	682	85.2
			A	92	88	76	82	74	96	94	90	692	86.5
3	25	ch	M	62	68	86	76	76	60	68	75	571	72.1
			A	66	70	80	80	68	70	62	66	562	70.2
4	40	ch	M	80	72	64	86	76	60	72	76	586	73.2
			A	82	75	66	80	74	65	78	76	596	74.5
5	27	ch	M	66	58	72	64	66	68	88	76	558	69.3
			A	62	67	70	65	70	72	72	68	546	68.2
6	24	ch	M	90	82	97	114	80	76	80	76	695	86.8
			A	90	35	90	96	88	75	83	81	688	86.
7	31	ch	M	74	56	70	90	88	70	68	68	584	73.
			A	90	62	62	92	85	72	72	70	605	75.6
8	23	ch	M	67	75	74	64	76	75	74	70	575	71.8
			A	68	70	75	65	75	80	75	72	580	72.5
9	22	ch	M	70	90	78	66	72	80	74	80	610	76.2
			A	68	92	84	70	84	78	75	72	623	77 8

LABOURING MEN.													
No.	Age.		Time	1	2	3	4	5	6	7	8	Total	Ave.
1	28	ch	M	68	73	75	76	73	72	73	68	578	72.2
			L	75	74	78	81	85	80	75	73	621	77.6
			A	70	70	73	74	76	81	71	74	589	73.6
2	45	ch	M	72	74	76	75	80	75	74	73	599	74.8
			L	79	77	80	80	80	81	73	79	629	78.6
			A	73	71	73	72	72	74	70	70	575	71.8
3	26	ch	M	66	74	75	74	74	72	75	68	578	72.2
			L	73	71	81	73	76	75	78	73	600	75.
			A	70	72	72	75	72	73	70	71	575	71.8
4	26	ch	M	75	74	75	78	56	84	70	72	584	73.
			L	80	80	78	91	72	80	73	83	637	79.6
			A	71	68	68	73	71	72	71	71	565	70.6

a marks the acute or recent cases.
ch " chronic "
M " morning observations.
A " afternoon "

WOMEN.													
No.	Age.		Time	1	2	3	4	5	6	7	8	Total	Ave.
1	60	a	M	85	82	80	90	72	74	76	72	631	78.8
			A	80	84	82	94	80	72	72	72	636	79.5
2	27	ch	M	93	82	81	84	85	81	80	81	667	83.3
			A	81	80	84	80	90	82	80	82	659	82.3
3	35	ch	M	60	84	80	72	68	75	76	80	595	74.3
			A	72	85	76	76	72	76	80	82	619	77.3
4	50	ch	M	79	88	92	68	69	76	80	86	638	79.7
			A	80	90	90	75	75	80	76	84	650	81.2
5	38	ch	M	73	80	80	84	84	82	88	84	655	81.8
			A	74	83	86	80	82	84	84	84	657	82.1
6	35	ch	M	75	72	76	64	72	73	76	76	584	73.
			A	76	74	80	70	72	70	76	74	592	74.
7	22	ch	M	78	88	100	90	92	80	90	90	708	88.5
			A	75	90	92	90	78	82	86	90	683	85.3
8	32	ch	M	80	82	85	90	91	84	80	80	672	84.
			A	82	80	85	90	90	83	82	76	668	83.5

The averages in this table are as follows, viz.:—Men, not labouring, 1 recent case. Morning, 94.6 Afternoon, 93.6
" " 8 chronic cases. " 75.9 " 76.4
Men, labouring, 4 chronic cases. " 73.7 " 72.2 at work, 77.7.
Women, 1 recent case. " 78.8 " 79.5
" 7 chronic cases. " 80.7 " 80.8

Observations on the Pulse of fifty Insane persons. By WILLIAM M. AWL, M. D., Physician to the Ohio State Lunatic Asylum.

With the prompt aid of my assistant, R. I. Patterson, M. D., we commenced our observations upon twenty-five male and the like number of female patients, on the first day of May last. The cases were selected with care, according to our best judgment, from the hundred and fifty in the institution; but a number were necessarily taken from those who are continually under the influence of medicines calculated to subdue excitement and allay irritation, which would, in some instances, undoubtedly lessen the action of the heart and arteries, and abate the velocity of the pulse. This was matter of regret, but it was perfectly unavoidable in the extensive range we have taken.

Our examinations were made twice a day, the first between eight and eleven in the morning, when every patient was up and stirring round; the second between nine and eleven in the evening, after all the patients had retired and were in their beds. They were made with unusual care, with good watches, and invariably continued, in each case, until we were fully satisfied of the true and undisturbed condition of the pulse; and this was rarely the case without a full counting of the entire minute thrice repeated, and always after every apparent agitation or symptoms of fear had entirely subsided.

According to our observations, the insane pulse appears for the most part to be quick in the stroke, deficient in force and volume, and highly nervous, so as to be easily disturbed. It is frequently irregular in regard to frequency, but it seldom intermits, and is neither full, strong, corded, nor bounding.

The stroke appeared to be quicker in the morning, and slower and rather fuller in the evening when the patient was at rest.

In many patients, talking, laughing, singing, moving the limbs, and twisting about the body, will quicken the action of the pulse: so will deep sighing and occasionally also emotions of the mind, and especially thinking or conversing upon the subject of their delusions. It is, in fact, a difficult pulse to examine, and its true condition may easily remain undiscovered if the patient is not allowed to become perfectly calm, and the examination is not very carefully made.

We have examined but one or two recent cases in a state of excitement during these observations, but there can be but little doubt that, under such circumstances, there will be increased frequency averaging from eighty to ninety beats in the minute.

1. CASES OF LESS DURATION THAN ONE YEAR.

No.	Age	Sex	Disease	Remarks	1st day		2d		3d		4th		5th		6th		7th		8th		9th		10th		Average		Total Average	
					M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E
1	23	Male,	Mania,	*a*	105	108	105	78	88	80	74	81	88	80	80	82	83	70	88	80	82	75	94	86	88 7	82.0		
2	35	Male,	do.	*a*	88	84	86	75	86	76	83	77	87	80	79	88	90	80	77	79	85	75	78	75	83·9	79.		
3	45	Male,	do.		47	48	51	41	50	44	48	50	55	46	44	52	60	52	55	50	72	56	50	56	53·2	49.5		
4	27	Male,	Melancholia,	*b*	65	60	55	50	68	48	47	54	53	54	56	60	60	56	59	57	56	55	55	54	57 4	54.8		
5	28	Male,	do.		74	63	75	83	75	62	64	71	78	68	68	74	69	65	81	62	65	55	70	61	78.	66.4	72.2	66.3
6	25	Female,	Melancholia,	*a*	72	72	66	72	68	64	61	57	64	64	64	66	60	64	64	62	61	62	68	68	64.8	65.1		
7	22	Female,	Mania,		75	63	86	84	80	80	78	81	77	63	84	60	80	77	80	94	92	96	90	81	82.2	78.		
8	25	Female,	do.		72	82	81	68	80	70	67	64	71	71	75	70	68	69	67	66	72	74	69	72	72.2	70.6		
9	41	Female,	Melancholia,	*a*	72	68	72	70	68	72	64	66	66	68	78	72	80	80	72	70	72	72	71	72	71.5	71.		
10	42	Female,	do.		70	79	73	69	80	86	66	70	72	68	72	74	76	65	72	65	71	63	70	68	72.2	70.7	72.5	71.8

2. CASES FROM ONE TO TWO YEARS' DURATION.

No.	Age	Sex	Disease	Remarks	1st day		2d		3d		4th		5th		6th		7th		8th		9th		10th		Average		Total Average	
					M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E
1	50	Male.	Mania,	*a*	78	85	77	72	78	78	78	78	78	80	80	81	74	84	79	82	72	79	84	79	77.8	79.8		
2	45	Male,	Homicidal,	*a*	48	54	47	52	59	46	49	60	63	52	60	50	64	54	56	56	50	48	50	51	54.6	52.3		
3	36	Male,	Mania,	*a*	72	58	79	58	76	62	68	69	74	64	74	76	75	64	80	75	88	84	73	64	75.9	67.4		
4	23	Male,	Melancholia,		70	52	71	48	64	48	60	48	78	43	68	56	68	49	72	47	68	54	74	55	69.3	50.5		
5	50	Male,	Monomania,	*a*	75	74	74	76	99	76	73	72	74	72	75	79	65	62	71	74	70	66	74	76	75.	72.7	70 1	64 5
6	30	Female,	Mania,		82	89	82	75	78	68	120	81	84	76	76	72	81	68	80	68	76	65	106	81	86.5	74.3		
7	36	Female,	do.		79	113	80	80	80	110	79	98	77	84	75	104	90	83	78	96	81	88	84	95	80.3	95.1		
8	56	Female,	do.	*a*	65	64	67	56	66	59	60	63	61	60	62	56	68	59	69	60	66	63	64	62	64.8	60.2		
9	42	Female,	Melancholia,		69	60	74	60	72	62	74	64	73	70	72	65	76	70	76	68	60	68	68	66	71.4	65.3		
10	35	Female,	Suicidal,	*a*	75	60	72	68	73	58	68	60	72	59	72	60	64	74	69	61	65	64	85	72	71.5	63.6	74.9	71.7

3. CASES FROM TWO TO FIVE YEARS' DURATION.

No.	Age	Sex	Disease	Remarks	1st day		2d		3d		4th		5th		6th		7th		8th		9th		10th		Average		Total Average	
					M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E
1	23	Male,	Mania,		67	57	70	56	66	60	74	56	66	56	64	60	60	59	64	57	68	52	62	57	66.1	57.		
2	34	Male,	do.	*b*	55	53	61	51	60	54	61	62	61	60	56	57	64	60	64	52	72	64	61	58	61.6	57.1		
3	48	Male,	do.		63	60	76	60	69	55	67	54	62	54	66	60	67	59	69	56	64	56	61	60	66.4	57.4		
4	29	Male,	do.	*b*	65	56	74	64	78	56	102	63	64	56	72	62	72	60	78	60	68	57	65	60	73.8	59.4		
5	31	Male,	Melancholia,		80	72	83	65	90	60	64	56	70	56	77	64	72	60	70	58	68	57	77	68	75.1	61.	68.6	58.3
6	29	Female,	Homicidal,		100	84	108	84	92	85	95	78	100	82	94	72	80	77	90	91	88	76	84	80	93.1	81.		
7	30	Female,	Mania,		87	69	90	68	81	65	96	64	100	67	88	62	94	57	88	68	90	65	88	72	90.2	65.7		
8	34	Female,	do.		78	80	95	76	90	78	82	84	90	69	108	88	82	80	102	88	84	80	88	80	89.9	79.3		
9	51	Female,	do.		68	60	73	59	68	59	70	64	68	60	64	68	64	61	68	56	68	57	62	56	67.3	60.		
10	51	Female,	do.		85	80	100	84	80	79	98	86	85	80	80	94	96	70	78	72	81	77	80	70	86.3	79.2		
11	54	Female,	do.		86	80	78	89	80	80	88	80	80	74	74	80	88	76	80	78	78	72	81	80	80.7	79.5	84.6	74.1

4. CASES FROM FIVE TO TEN YEARS' DURATION.

No.	Age	Sex	Disease	Remarks	1st day		2d		3d		4th		5th		6th		7th		8th		9th		10th		Average		Total Average	
					M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E
1	33	Male,	Homicidal,	*a*	80	66	64	52	84	64	77	63	71	68	75	67	64	56	68	59	72	56	71	85	71.6	63.6		
2	38	Male,	Mania,		86	60	92	70	81	70	90	92	72	76	80	79	92	79	81	83	96	72	87	75	86.	75.6		
3	33	Male,	do.	*b*	72	65	78	76	66	64	108	70	81	56	74	74	68	59	68	68	63	61	68	82	74.6	67.5		
4	45	Male,	do.		70	64	65	73	70	72	74	72	90	72	72	72	56	68	72	61	51	71	60	72	68.	69.7		
5	58	Male,	do.		63	64	63	60	65	66	63	60	64	60	72	61	59	60	58	57	55	58	64	63	62.6	60.9	72.5	67.4
6	29	Female,	do.		90	65	89	66	91	70	98	72	88	64	80	59	88	75	81	80	98	72	78	90	88.1	71.3		
7	41	Female,	Homicidal,		117	100	102	92	100	90	88	68	80	72	72	84	86	70	62	70	85	69	84	76	89.6	79.1		
8	43	Female,	Mania,		78	75	98	74	100	66	86	62	95	72	84	60	78	74	79	80	69	60	80	90	84.7	71.3		
2	52	Female,	do.		72	72	70	63	78	64	65	56	72	73	68	62	66	64	68	56	62	64	61	58	68.2	63.2		
10	48	Female,	Melancholia,		75	70	85	71	79	70	80	72	79	67	76	65	80	65	72	66	76	74	85	69	78.7	68.9	81.8	70.7

5. CASES OF MORE THAN TEN YEARS' DURATION.

No.	Age	Sex	Disease	Remarks	1st day		2d		3d		4th		5th		6th		7th		8th		9th		10th		Average		Total Average	
					M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E
1	33	Male,	Mania, - -		62	50	65	57	84	48	50	48	48	46	68	60	72	52	55	47	62	45	64	64	63.	51.7		
2	33	"	Dementia, -	b	70	74	79	85	90	59	75	60	68	60	70	60	64	72	69	60	70	84	84	80	73.9	69.4		
3	38	"	Mania, - -		76	78	88	76	98	95	97	108	79	80	95	87	87	80	85	81	80	76	84	86	85.3	85.7		
4	46	"	do. - -		92	88	93	94	100	80	95	86	98	88	89	78	96	94	100	86	88	78	96	97	94.7	87.		
5	52	"	do. - -	a b	59	55	50	54	49	58	50	54	51	54	50	53	45	48	49	64	52	55	55	51	50.5	54.6	73.5	69.7
6	32	Female,	do. - -	a	100	80	100	75	75	80	76	87	87	75	67	80	80	73	74	72	77	68	75	74	90.9	76.4		
7	34	"	do. - -		74	74	68	65	80	68	68	64	71	69	70	64	70	60	72	65	65	70	68	66	70.6	66.5		
8	46	"	do. - -		85	79	113	88	98	87	92	80	86	88	123	84	106	80	88	96	99	88	100	86	99.	80.3		
9	50	"	do. - -		76	76	76	100	81	91	76	70	76	76	85	90	70	84	84	104	92	76	74	72	79.	83.9	84.8	76.8

As a general rule, the first minute cannot be depended on in counting by the watch. If the second and third minute agree, the true condition of the pulse will probably be ascertained. We found the pulse rise and beat faster in a few cases after the first minute, but in more cases it fell and became slower. In some individuals it appeared almost impossible to count the pulse over twice alike. Notwithstanding many trials, with an apparent calmness of the patient, it would be 88, 82, 75 or 80, &c., appearing always to vary a few beats with every trial. In a few cases the measure of the beat would suddenly appear to change after the count commenced, so that it would be necessary to stop and begin the examination again. This was different from irregularity of the pulse, in which there would be a sudden increase of frequency for a few seconds, and then a fair return to its common standard at the time.

Those cases in the tables marked *a*, were under the influence of medicines which probably lessened the frequency of the pulse to some extent.

Those marked *b*, practice masturbation. In such patients we find the temper and feelings extremely variable. The pulse is also variable. By reference to the tables, it will be observed that they all average below the medium standard of velocity, and I think this is not uncommon in masturbation cases.

In case No. 1, in the first table, there evidently was agitation in the first three or four examinations. The person has since recovered, and informed us that he was under the most dreadful feelings of apprehension that we were preparing to take his life. We were not aware of this at the time, and supposed we had given him no occasion of alarm. This shows the necessity of caution in taking the pulse of the insane.

Case No. 5, table second, is the most perfect example of monomania I have ever known. This man was a religious enthusiast of the Miller cast, and, at the time of these observations, was daily expecting special and awful judgments from God upon this immediate vicinity.

Case 10, table second, is the most determinedly and perseveringly suicidal person we have ever known in this or any other institution.

No. 3, table fifth, is a furious madman, requiring confinement in a strong room at all times.

The homicides are all strongly marked cases. They were specially selected, and the examinations conducted with extraordinary attention and carefulness. Case No. 1, table fourth, is one of the most impulsive and dangerous men we have ever had under our care. Upon the last occasion that I proceeded to examine his pulse, I found him in bed, awake and apparently composed. As I attempted to place my fingers upon his wrist, he was suddenly taken with the homicidal impulse in the most frightful manner. His frame was convulsed, he screamed awfully, and instantly struck me with great violence, exclaiming, while he attempted to repeat the blow, that he was determined to kill me. I was accompanied by an attendant, and very little disturbed, so that I immediately thought of the importance of taking his pulse in this excited condition, which I did as soon as I could persuade him to hold still; and, though he continued to talk and threaten, I counted it distinctly for three minutes, and ascertained it to be exactly eighty-five strokes to the minute. He was wonderfully agitated and excited, and repeatedly averred that he certainly would be the death of me. A more frightful man there could not be.

The impulsive excitement was the more surprising, as he had shown the most perfect willingness to be examined upon every former occasion.

I also have the best reason in the world for considering No. 2, table fourth, as a homicidal case, as he once threw a large axe at my head with the full intention of knocking out my brains. It was impulsive, and it was not his fault that he did not succeed in his violent attempt.

Meteorological journal kept at the Ohio State Lunatic Asylum during the period occupied in making the foregoing observations on the pulse.

BAROMETER.					THERMOMETER ATTACHED.				THERMOMETER DETACHED.				
May, 1844.	Sun Rise	9 A. M.	3 P. M.	6 P. M.	Sun Rise	9 A. M.	3 P. M.	6 P. M.	Sun Rise	9 A. M.	3 P. M.	6 P. M.	Rain
1	28.98	29.00	28.91	28.86	70	72	77	78	66	72	79	78	This night 1-8 inch.
2	28.84	28.86	28.86	28.85	72	75	78	78	64	72	78	76	This night 3-4 inch.
3	28.85	28.88	28.82	28.82	72	74	74	76	61	72	74	73	
4	28.92	28.93	28.90	28.90	66	68	72	72	50	62	72	66	
5	28.94	28.94	28.89	28.82	62	70	72	71	45	60	78	71	This night 1-8 inch.
6	28.69	28.70	28.84	28.88	67	66	67	68	57	58	65	62	
7	29.00	29.05	29.02	29:01	61	64	74	73	45	64	74	73	
8	28.92	28.94	28.97	28.99	68	74	72	74	58	71	70	69	
9	29.10	29.13	29.16	29.16	64	67	73	72	48	65	71	69	
10	29.22	29.23	29.15	29.12	65	67	80	80	50	68	80	82	

Observations on the Pulse of thirty-nine Insane persons, at the McLean Asylum. By LUTHER V. BELL, M. D., Physician to that Institution.

I. MALES; DISEASE, ACUTE.

No.	Age	1st day	2d	3d	4th	5th	6th	7th	8th	9th	10th	Total	Average
1	72	80	88	72	88	72	100	88	76	76	88	828	82. 3
2	21	104	96	100	112	100	100	84	88	80	100	964	96. 4
3	50	88	96	100	100	100	96	104	100	84	92	960	96.
4	24	76	80	72	88	68	80	76	72	100	84	796	79. 6
5	58	76	100	96	76	84	84	72	68	84	84	824	82. 4
6	26	68	88	80	72	84	88	72	72	72	80	766	76. 6
7	80	68	68	68	72	72	72	72	72	72	76	692	69. 2
8	25	100	100	88	76	72	60	64	72	56	76	764	76. 4
9	60	100	100	100	96	96	88	72	92	88	96	938	93. 8
10	50	68	80	72	80	80	72	80	88	112	84	816	81. 6
Total, and total average, - - - - - -												8348	83.48

II. FEMALES; DISEASE, ACUTE.

No.	Age	1st day	2d	3d	4th	5th	6th	7th	8th	9th	10th	Total	Average
1	37	80	88	84	100	100	100	80	84	80	76	872	87.2
2	25	76	76	80	100	80	76	84	88	84	80	824	82.4
3	30	60	76	72	72	64	60	72	64	72	76	688	68.8
4	22	76	68	72	72	72	68	72	72	72	80	724	72.4
5	55	76	72	72	80	80	76	80	80	88	88	792	79.2
6	29	80	100	72	88	72	72	80	68	72	76	780	78.
7	54	100	70	88	88	88	72	112	88	88	84	878	87.8
8	37	80	84	92	88	84	80	76	84	80	80	828	82.8
9	55	56	60	76	72	60	56	72	64	64	64	644	64.4
10	19	96	88	84	72	88	80	88	80	96	88	860	86.
Total, and total average, - - - - - - -												7880	78.8

III. MALES; DISEASE, CHRONIC.

No.	Age	1st day	2d	3d	4th	5th	6th	7th	8th	9th	10th	Total	Average
1	40	72	80	84	88	80	80	88	84	112	84	852	85. 2
2	55	96	96	104	96	96	104	96	96	100	88	972	97. 2
3	50	80	88	84	84	88	80	72	76	88	76	816	81. 6
4	60	60	60	64	60	60	68	60	64	64	64	624	62. 4
5	40	84	76	80	80	88	100	84	80	100	104	876	87. 6
6	49	64	64	72	78	72	68	64	80	76	76	714	71. 4
7	53	88	88	64	80	80	72	80	80	80	100	812	81. 2
8	37	84	96	68	72	76	72	68	64	76	80	756	75. 6
9	27	84	88	100	88	96	80	100	80	84	92	892	89. 2
10	30	72	84	120	88	88	100	104	104	64	56	880	88.
Total, and total average, - - - - - - -												8194	81.94

IV. FEMALES; DISEASE, CHRONIC.

No.	Age	1st day	2d	3d	4th	5th	6th	7th	8th	9th	10th	Total	Average
1	44	108	88	72	80	80	80	84	80	76	80	828	82. 8
2	42	96	72	72	80	100	100	80	72	72	100	844	84. 4
3	30	76	72	72	80	84	72	76	76	80	76	764	76. 4
4	46	72	84	80	80	80	88	100	92	88	80	844	84. 4
5	38	76	68	76	100	80	88	80	72	76	72	788	78. 8
6	35	80	72	72	80	76	76	80	80	72	76	764	76. 4
7	23	100	80	88	100	100	112	108	88	120	104	1000	100.
8	40	72	68	72	72	104	68	72	68	112	88	796	79. 6
9	62	74	80	80	74	72	76	80	76	72	72	756	75. 6
Total, and total average, - - - - - - -												7384	82.44

"These cases are presented only in regard to the one fact of *pulse*, irrespective of medical measures, to which some of them are now subject."—*Letter of Dr. Bell.*

Observations on the Pulse of fifteen Insane persons in the New Hampshire State Lunatic Asylum. By George Chandler, M. D., Physician to that Institution.

	No.	Age	Time insane	1st day	2d	3d	4th	5th	6th	7th	8th	9th	10th	Total	Average	
															Acute	Chronic
Men.	1	31	4 months	47	54	48	46	52	56	51	54	54	60	522	52.2	
	2	50	2 months	84	68	64	71	68	54	61	60	58	54	642	64.2	
	3	24	2 years	85	72	86	76	88	61	62	62	60	85	737		73.7
	4	53	19 years	54	61	60	58	54	60	54	84	54	60	579		57.9
	5	45	8 years	76	69	65	54	60	60	84	68	65	64	665		66.5
	6	54	18 years	52	60	68	62	80	54	55	66	58	61	616		61.6
	7	23	18 years	78	70	72	84	60	60	83	78	72	61	718		71.8
	8	57	3 years	49	100	54	86	78	55	62	84	51	59	678		67.8
	Total average,			-	-	-	-	-	-	-	-				58.2	66.4
Women.	1	37	4 months	70	90	72	68	79	72	61	75	66	72	725	72.5	
	2	65	10 months	80	72	67	76	78	76	67	72	72	73	733	73.3	
	3	15	5 months	82	84	108	77	68	62	75	65	66	58	745	74.5	
	4	54	3 months	72	72	75	70	72	70	71	66	78	72	733	73.3	
	5	51	4 years	73	84	72	68	78	72	71	72	70	79	739		73.9
	6	54	1 year	84	96	84	83	108	96	96	84	93	98	922		92.2
	7	52	6 years	80	72	100	94	94	98	108	88	93	95	922		92.2
	Total average,			-	-	-	-	-	-	-	-				73.4	86.1

"It is singular that the recent cases should have the slowest pulse. It must be accidental, as these were all the cases noted, except one man who had, the past winter, lost his foot by frost, and the stump is yet discharging purulent matter from the whole surface. His pulse ranged about 96 per minute."—*Letter from Dr. Chandler.*

Observations on the Pulse of fifty-eight Insane persons. By Pliny Earle, M. D., Physician to the Bloomingdale Asylum.

I. CASES OF LESS DURATION THAN ONE YEAR.

No.	Age	Sex	Disease	Remarks	1st day		2d		3d		4th		5th		6th		7th		8th		9th		10th		Average		Total Average	
					M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E
1	21	Male,	Mania, quiet,	*a*	72	66	72	60	60	60	72	64	72	66	73	57	80	60	90	65	72	66	73	57	73.6	62.1		
2	27	“	“ “	*a* *b*	102	76	90	84	102	84	104	84	100	70	96	79	87	73	84	80	96	78	92	91	95.3	79.9		
3	29	“	“ some excited,	*a*	86	60	78	76	116	55	96	65	102	56	96	72	85	53	76	49	88	60	102	60	92.5	60.6		
4	32	“	“ quiet,	*a*	82	54	80	56	86	56	94	60	80	64	76	76	84	73	72	66	76	60	70	79	80.	64.4		
5	36	“	Melancholia, suicidal,	*a*	108	66	86	54	102	64	106	62	96	64	84	72	94	66	114	84	108	72	99	67	99.7	67.1		
6	42	“	“ “	*a*	86	54	90	54	90	62	96	61	85	66	78	58	82	57	90	56	72	72	68	60	83.7	60.		
7	42	“	Mania, quiet,	*a*	68	64	60	57	62	54	74	60	72	48	89	53	72	66	68	55	85	60	74	66	72.4	58.3		
8	46	“	Melancholia,	*a*	96	96	120	84	104	78	108	84	86	84	120	83	84	84	114	85	100	95	80	87	101.2	86.0		
9	46	“	Mania, lethargic,		84	72	80	75	82	79	88	72	84	82	88	88	78	78	83	84	78	96	95	85	84.	81.1		
10	55	“	Melancholia, suicidal,	*a*	76	72	82	64	84	63	64	64	76	66	85	72	72	72	72	69	84	80	90	72	78.5	69.4	86.1	68.9
1	16	Female,	Mania, lethargic,	*a*	78	84	76	64	72	60	76	72	72	64	64	66	78	69	65	67	72	78	76	84	72.9	70.8		
2	23	“	“ some excited,	*a*	94	89	64	84	84	72	72	77	76	78	78	80	97	72	60	79	95	96	81	72	80.1	79.9	76.5	75.2

II. CASES FROM ONE TO TWO YEARS IN DURATION.

1	28	Male,	Mania, quiet,		92	72	92	64	96	72	96	56	65	64	72	60	80	69	76	60	78	72	88	78	83.5	66.7	83.5	66.7
1	35	Female,	“ “	*a*	72	75	80	76	78	86	84	73	96	72	76	90	93	75	79	83	91	90	96	84	84.9	80.4		
2	42	“	“ “	*a*	72	64	62	60	76	66	82	58	86	60	66	54	61	54	54	56	60	60	71	60	69.	59.2		
3	46	“	“ “		84	74	73	78	72	68	96	82	78	82	87	84	95	83	95	81	80	80	102	88	86.2	80.	80.3	73.2

a Cases under medical treatment. *b* In these cases the patient practices masturbation.

III. CASES FROM TWO TO FIVE YEARS IN DURATION.

No.	Age	Sex	Disease	Remarks	1st day		2d		3d		4th		5th		6th		7th		8th		9th		10th		Average		Total Average	
					M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E
1	25	Male,	Mania, quiet, - - -	*b*	96	68	74	68	96	60	105	76	104	72	96	72	102	54	84	72	90	80	95	80	94.2	70.2		
2	31	"	" " - - -		86	60	101	68	64	66	72	68	96	64	68	60	78	64	96	64	90	84	108	56	85.9	65.4		
3	36	"	" " - - -		96	56	78	60	104	66	88	60	96	63	102	63	91	53	96	68	98	78	89	66	93.8	63.2		
4	39	"	Melancholy, suicidal, - -	*a*	68	62	82	54	72	57	70	60	66	54	80	56	72	64	84	66	96	56	87	72	77.7	60.1		
5	52	"	Mania, excitable, - - -	*a*	96	76	106	78	84	72	90	80	108	72	102	56	81	78	96	61	79	72	102	72	94.4	71.7	89.2	66.1
1	23	Female,	" hysterical, - -		84	72	90	88	108	84	84	80	100	93	96	96	90	90	90	104	101	96	81	100	92.4	90.3		
2	35	"	" quiet, - - -		74	84	83	69	75	96	84	80	94	69	85	76	85	78	83	84	88	76	82	81	83.3	79.3	87.8	84.8

IV. CASES FROM FIVE TO TEN YEARS IN DURATION.

1	29	Male,	Mania, quiet, - - -	*b*	88	56	96	52	74	54	96	52	84	52	96	48	97	53	72	64	65	60	72	55	84.	54.6		
2	33	"	Dementia, - - - -		94	60	78	60	80	56	81	48	96	48	69	54	78	49	90	57	80	51	85	60	83.1	54.3		
3	34	"	Mania, cataleptic, - -		68	48	82	60	92	52	72	52	76	48	85	52	95	48	85	57	72	48	76	55	80.3	52.		
4	37	"	" quiet, - - -		78	76	78	66	72	72	78	60	68	72	84	68	68	60	96	72	79	65	78	63	77.9	67.4		
5	39	"	Dementia, - - - -		84	47	66	60	56	56	96	60	84	54	96	60	66	68	90	60	83	73	102	69	82.3	60.7		
6	39	"	" - - - -		76	66	80	60	88	65	80	67	80	60	83	61	78	63	84	83	78	60	90	60	83.7	64.5		
7	46	"	Mania, quiet, - - -		94	58	90	60	98	60	81	72	84	66	80	64	84	57	78	60	93	65	92	84	87.4	64.6	82.6	59.7
1	24	Female,	" " - - -		71	72	72	68	76	72	82	73	84	72	84	64	68	90	67	77	77	78	78	78	75.9	74.4		
2	32	"	Dementia, - - - -		80	96	84	72	80	96	84	108	96	84	76	80	85	76	72	79	96	84	96	102	84.9	87.7		
3	35	"	Melancholia, - - -		80	72	71	63	74	78	90	64	88	72	64	65	85	64	77	66	84	72	69	80	78.2	69.6		
4	39	"	Dementia, - - - -		84	76	71	68	74	79	76	76	80	76	80	64	88	73	64	86	96	87	79	78	79.2	76.3		
5	41	"	Mania, quiet, - - -		76	84	64	76	84	92	90	80	66	80	84	84	76	90	75	83	73	96	87	93	77.5	85.8		
6	43	"	" " - - -		82	82	87	76	96	90	84	90	80	66	96	78	83	77	79	65	80	78	85	80	85.2	78.2		
7	53	"	" " - - -		82	96	78	90	90	90	78	90	82	90	78	84	108	84	68	68	84	83	85	89	83.3	86.4		
8	71	"	Senile insanity, - - -		66	76	90	76	72	76	84	80	72	68	83	73	78	85	78	75	89	90	90	76	80.2	77.5	80.5	79.4

V. CASES FROM TEN TO TWENTY, AND UPWARDS OF TWENTY YEARS IN DURATION.

	No.	Age	Sex	Disease		1st day		2d		3d		4th		5th		6th		7th		8th		9th		10th		Average		Total Average	
						M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E	M	E
From ten to twenty years.	1	27	Male,	Dementia,	b	96	66	64	68	76	72	84	64	84	60	102	73	79	72	88	60	101	60	84	75	85.9	67.		
	2	42	"	"		72	83	88	77	84	84	80	82	84	82	92	78	88	84	75	64	95	71	90	72	84.8	77.7		
	3	53	"	"		86	76	90	71	84	78	90	78	75	78	78	64	78	73	89	75	81	70	84	72	83.5	73.5		
	4	76	"	Senile insanity,		74	63	84	72	84	68	84	66	88	65	78	68	84	72	85	74	66	66	72	66	79.9	68.	83.5	71.5
	1	34	Female,	Dementia,		76	75	78	72	84	96	72	78	74	72	78	72	78	61	78	65	68	79	85	80	77.1	75.		
	2	35	"	Mania, quiet,		78	90	73	82	94	96	85	70	80	66	80	88	81	90	89	87	78	96	85	84	82.3	84.9		
	3	45	"	" "		70	72	80	63	70	72	88	71	72	68	84	68	80	73	91	74	80	73	77	67	79.2	70.1		
	4	45	"	" "		82	76	76	81	90	88	96	73	78	78	99	78	73	68	78	73	90	72	78	80	84.	76.7	80.6	76.6
Upwards of twenty years.	1	42	Male,	Dementia,		76	68	98	96	87	84	85	96	85	84	89	90	90	73	86	87	83	76	83	74	86.2	82.8		
	2	48	"	Mania, quiet,	b	75	51	74	55	96	52	77	48	83	54	73	52	64	48	64	56	67	52	66	54	73.9	52.2		
	3	55	"	Imbecility,		68	71	80	69	72	72	96	72	84	68	96	75	72	64	72	72	85	60	90	71	81.5	69.4		
	4	56	"	Mania, quiet,		96	76	86	69	84	76	84	72	90	72	84	76	85	84	87	76	91	80	88	92	87.5	77.3		
	5	57	"	" "		90	63	86	59	80	68	68	66	92	64	90	57	93	56	66	73	90	63	84	72	83.9	64.1		
	6	65	"	Dementia,		74	63	70	57	76	60	66	60	72	54	72	61	78	60	66	63	66	60	72	76	71.2	61.4		
	7	82	"	Senile insanity,		58	48	64	56	60	48	68	64	72	52	60	51	68	59	66	54	64	60	78	60	65.8	55.2	78.5	66.5
	1	29	Female,	Mania, epileptic,		86	88	96	94	100	88	96	92	84	80	96	92	96	96	88	84	84	87	92	90	91.8	89.1		
	2	63	"	" quiet,		100	84	104	80	90	84	90	100	90	96	92	84	93	96	85	96	108	96	95	92	94.1	91.2		
	3	65	"	" "		64	86	86	84	80	84	78	76	72	80	73	96	72	72	76	76	96	75	79	85	77.6	81.4		
	4	66	"	Imbecility,		62	76	68	64	68	78	72	64	92	78	68	52	83	76	67	73	68	73	68	72	71.6	70.6		
	5	68	"	Mania, quiet,		70	76	63	80	58	60	72	72	64	78	62	66	64	72	60	72	83	66	73	60	66.9	70.2	80.4	80.5

A considerable number of these cases, as will be perceived by the references, were under medical treatment during the period in which the observations were made. In some of them the pulse was undoubtedly modified by this medication, but in others the influence was not of an appreciable magnitude. A few cases have been rejected from the whole number upon which the observations were made, and among them two, the peculiarity in whose circulation appeared, or in one of them, at least, to be an idiosyncrasy. The first was that of a female about forty-five years of age, whose mental disorder had been of nearly five years' duration. Her bodily health was somewhat impaired, and she was subject to occasional spasmodic muscular action of the left side, which, about two months after the termination of the observations, resulted in hemiplegia. Her pulse was examined with great precaution, and was found to range as follows:—

Morning,	120,	123,	132,	105,	132,	114,	102,	108,	114,	124.
Evening, in bed,	104,	108,	92,	128,	80,	80,	108,	105,	114,	120.

The second was that of a man, aged fifty-three years, and an inmate of the Bloomingdale Asylum ever since its opening, in 1821. His intellect is much impaired, but his physical health perfectly good. He assists in making the beds in the morning, but all his muscular movements are so slow, that when engaged in this employment, the exercise is not so great as that of moderate walking. The morning observations were made under the circumstances mentioned, and those of the evening, when he was in bed.—They are as follows:—

Morning,	100,	100,	102,	94,	112,	112,	112,	102,	106,	96;	Average,	103.6.
Evening	62,	56,	56,	58,	56,	55,	58,	64,	59,	64;	"	58.8.

In the communication containing the results of his observations, Dr. Ray, of the Maine Asylum, says: "I did not follow your suggestions of getting the pulse after the patients had retired to bed, because it occurred to me that the very circumstance of waking a patient and getting his pulse would probably have an effect upon it." This objection is replete with truth and force, and unless the precautions suggested by Dr. Awl, in the remarks accompanying his observations, are constantly practised, the results of investigations of the pulse under the circumstances in question must be very erroneous. But, in this connection, I wish to direct attention to some of the cases contained in the foregoing tables. In No. 1. of males, table 1st, the fifth evening observation is 66, and in No. 9, the 6th, 8th and 9th are 88, 84 and 96 respectively; No. 7, table 4th, the 6th evening observation is 64, and No. 7, females, it is 90. No. 4, males, 2d division of table 5th, the 6th and 10th evening observations are 76 and 92, and the case next following (No. 5), the 3d, 8th and 10th are 68, 73 and 72. No 1, females, same division of table 5th, the 7th is 96, and No. 4, same division, the 3d, 5th and 8th are 78, 78 and 73. In all these cases, at the times of the several observations here specified, the patients were *sleeping*, and, by a comparison of these observations with the others upon the same persons, it will be perceived that they are generally the highest. In some of them all the observations during sleep exceed any of those when the person was awake. The instances adduced are nearly all, of the whole number included in the tables, which were taken while the patients were sleeping, and they were thus taken, preserved and embodied with the others, that the fact of the predominance (in these cases at least) of the sleeping pulse over that of the waking might be noticed. The fact proves, also, that, in these cases, there could have been no excitement, at the several times of taking the pulse when the persons were awake, which materially influenced the rapidity of the circulation. Having heretofore remarked upon other peculiarities of the pulse of the insane, there is no necessity of enlarging upon the subject at the present time.*

Meteorological register kept at the Bloomingdale Asylum during the period in which the foregoing observations of the pulse were made.

Date	At sunrise, Thermometer out of doors	At sunrise, Thermometer in the house	Barometer at sunrise	Wind	Weather
1844, May 16	55	63	30.10	S. W.	Cloudy.
" 17	59	65	29.85	E.	Rain.
" 18	53	63	30.20	S. E.	"
" 19	55	64	30.25	N. W.	Clear.
" 20	51	65	30.20	S. E.	Rain.
" 21	61	65	29.80	N. W.	"
" 22	40	61	30.30	N. W.	Clear.
" 23	45	60	30.40	S. W.	"
" 24	55	62	30.40	–	"
" 25	60	65	30.20	–	"

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* *Vide* Am. Journ. Med. Sci., new series, No. 5, January, 1842, p. 84.
" " " " No. 14, April, 1844, p. 306.

Observations on the Pulse of thirty-two Insane persons, at the Eastern Asylum, Williamsburg, Virginia. By JOHN M. GALT, M. D., Physician to that Institution.

I. MALES.

No.	Age	1st day			2d			3d			4th			5th			6th			7th			8th			9th			10th			Average		
		M	N	E	M	N	E	M	N	E	M	N	E	M	N	E	M	N	E	M	N	E	M	N	E	M	N	E	M	N	E	M	N	E
1	48	59	65	60	71	55	63	63	81	64	60	74	86	62	80	64	60	65	68	63	74	65	78	82	71	68	77	63	80	81	81	66.4	73.4	68.5
2	35	63	76	84	71	81	71	70	72	50	71	82	55	66	74	58	69	71	60	65	72	70	72	71	76	71	80	81	64	96	74	68.2	77.5	67.9
3	24	55	78	64	61	59	55	57	75	52	67	77	68	51	80	54	57	87	78	56	72	81	55	61	66	58	71	64	53	83	54	57.0	74.3	63.6
4	55	69	87	80	78	82	69	63	76	75	68	87	74	73	77	69	70	80	69	72	80	61	82	98	77	77	86	72	80	89	75	73.2	84.2	72.1
5	48	60	82	79	81	87	77	80	81	71	70	105	74	64	94	74	70	91	84	72	80	83	76	81	80	77	93	91	75	95	85	72.5	88.9	79.8
6	34	71	87	69	67	78	58	60	75	56	66	88	59	67	108	72	77	90	61	63	74	61	87	77	59	71	73	52	74	78	50	70.3	82.8	61.7
7	43	55	65	58	78	74	50	49	66	48	65	68	48	80	84	59	61	75	61	55	70	55	59	80	54	54	73	54	49	66	48	60.5	72.1	53.5
1	46	55	62	55	52	53	49	54	50	50	55	57	51	51	55	56	50	51	51	49	47	54	50	49	51	52	51	48	48	53	50	51.6	52.8	51.5
9	40	64	72	68	57	71	71	59	60	74	67	81	59	60	102	67	61	94	74	67	81	61	63	87	76	62	90	68	63	97	70	62.3	83.5	68.8
10	32	48	95	70	56	64	64	47	52	65	51	56	68	53	84	68	49	60	63	53	64	64	55	65	67	52	54	68	51	67	63	51.5	66.1	66.0
11	24	66	77	59	71	78	53	56	71	64	66	77	57	71	86	58	71	77	62	70	70	52	69	66	60	66	67	56	76	89	63	68.2	75.8	58.4
12	39	63	68	66	61	76	58	59	64	58	57	70	62	59	72	67	64	79	60	64	68	65	60	83	60	56	78	64	67	71	62	61.0	72.9	62.2
13	38	75	103	98	78	98	90	82	95	78	90	100	77	88	110	78	79	88	86	94	88	87	85	96	91	78	89	84	90	82	77	83.9	94.9	84.6
14	61	77	96	85	78	87	69	69	87	71	71	82	67	71	78	80	72	74	73	71	87	72	77	82	74	76	83	75	80	80	76	74.2	83.6	74.2
15	45	75	94	96	75	93	68	73	86	74	72	84	67	76	87	86	78	91	72	67	76	74	68	93	76	68	86	78	74	75	73	72.6	86.5	76.4
16	42	49	61	61	65	61	63	56	67	48	51	56	57	58	71	74	66	73	65	57	70	62	57	78	61	61	79	65	68	74	65	58.8	69.0	62.1
Total average, -																																65.7	77.4	66.9

II. FEMALES.

No.	Age	1st day			2d			3d			4th			5th			6th			7th			8th			9th			10th			Average		
		M	N	E	M	N	E	M	N	E	M	N	E	M	N	E	M	N	E	M	N	E	M	N	E	M	N	E	M	N	E	M	N	E
1	57	80	91	95	88	84	78	80	81	77	89	88	91	86	83	84	84	90	86	83	87	98	90	90	81	82	86	85	84	82	88	84.6	86.2	86.3
2	53	71	80	80	72	70	79	66	72	60	68	103	80	69	74	78	68	74	72	67	75	80	66	76	71	63	68	75	65	67	76	67.5	75.9	75.1
3	41	62	68	68	71	68	65	58	62	72	66	82	73	60	74	62	62	77	79	66	74	68	70	80	63	62	79	68	65	73	69	64.2	73.7	68.7
4	50	74	119	67	75	84	65	74	80	70	68	83	80	77	88	73	72	77	81	72	85	76	77	91	72	66	83	77	76	85	75	73.1	87.5	73.6
5	32	104	122	100	93	96	84	71	74	81	70	94	84	70	91	87	69	78	81	78	75	76	72	80	82	65	94	87	71	87	88	76.3	89.1	85.0
6	43	81	77	87	72	81	87	70	77	78	70	82	84	63	74	85	65	67	92	67	77	89	65	77	83	63	79	93	65	77	88	68.1	76.8	86.6
7	38	71	90	76	60	80	67	60	88	58	61	89	71	58	73	69	58	85	84	63	77	69	68	87	67	60	85	68	61	72	71	62.0	82.6	70.0
8	48	63	91	70	58	77	68	64	74	69	56	76	68	61	80	70	64	68	78	60	70	81	63	85	75	58	72	76	74	80	72	62.1	77.3	72.7
9	30	85	92	90	82	88	77	80	87	76	72	70	77	78	82	81	85	90	83	90	104	83	94	90	78	90	86	71	86	86	80	84.2	87.5	79.6
10	47	63	71	72	71	68	68	58	60	64	64	69	67	66	72	70	70	75	76	72	80	79	80	78	70	68	72	76	72	74	83	68.4	71.9	72.5
11	49	77	83	73	84	78	69	75	71	75	78	74	72	72	87	80	78	79	83	80	84	84	75	83	73	70	73	83	85	86	82	77.4	79.8	77.4
12	34	97	91	83	91	88	78	79	86	89	94	100	74	88	94	83	90	102	87	90	88	91	87	86	87	81	84	102	86	106	76	88.3	92.5	85.0
13	26	72	78	85	70	79	71	66	79	79	69	74	80	70	77	84	69	70	81	66	73	81	72	82	77	70	65	80	76	78	87	70.0	75.5	80.5
14	27	72	70	65	64	73	73	65	63	75	61	68	56	62	73	62	76	62	63	64	70	60	67	75	66	66	78	64	74	83	55	67.1	71.5	63.9
15	44	84	105	91	78	75	64	70	74	80	75	92	68	81	91	74	76	104	83	78	88	82	77	102	79	80	86	77	106	105	83	80.5	92.2	78.1
16	59	72	78	87	69	66	74	78	71	78	76	77	83	70	86	77	64	87	78	73	72	86	98	70	70	75	73	73	76	82	54	75.1	76.2	76.0
																											Total average,			-		73.	81.	76.9

Observations on the Pulse of forty-four Insane persons. By ISAAC RAY, M. D., Physician to the Maine State Lunatic Asylum.

I. MALES.

	No.	Age	Time insane	Form of disease	Time	Pulsations per minute										Average		Total Average	
						1st Day	2d	3d	4th	5th	6th	7th	8th	9th	10th	M	A	M	A
Recent cases.	1	18	4 months,	Mania,	M	94	94	100	89	102	92	112	91	102	76	95.2			
				quiet, -	A	94	79	92	88	101	92	84	71	62	62		82.5		
	2	36	8 "	Dementia,	M	57	64	59	57	56	63	68	67	69	70	63.0			
				quiet, -	A	62	56	60	68	58	68	62	57	54	71		61.6		
	3	49	3 "	Mania,	M	82	72	75	65	79	98	92	84	60	86	79.3			
				quiet, -	A	80	84	80	68	78	75	74	76	75	70		76.0		
	4	48	6 "	Mania, con-	M	74	83	80	80	76	94	77	84	87	69	70.4			
				valescing,	A	76	72	82	71	70	74	63	70	91	66		73.5	76.9	73.4
Chronic cases.	5	55	1 year,	Mania, some	M	62	72	90	60	70	68	62	88	62	66	70.0			
				excited, -	A	64	68	76	74	69	70	68	72	56	78		69.4		
	6	33	1½ years,	Mania, -	M	70	72	69	78	70	67	71	68	80	59	70.4			
				quiet, -	A	88	75	76	66	85	66	66	65	66	64		71.7		
	7	33	1½ "	Mania, epi-	M	62	73	56	65	61	64	70	57	61	68	63.7			
				leptic, -	A	73	60	62	60	68	57	55	67	79	63		64.4		
	8	41	2 "	Mania, some	M	61	88	70	74	82	72	92	87	92	95	81.3			
				excited, -	A	75	60	74	79	68	84	84	80	68	77		74.9		
	9	32	4½ "	Mania,	M	72	70	67	64	73	77	80	84	89	69	74.5			
				quiet, -	A	68	69	69	47	66	57	78	58	68	72		65.2		
	10	26	2½ "	Mania,	M	74	59	58	65	93	90	71	69	76	79	73.4			
				quiet,	A	74	67	76	71	81	82	74	80	66	77		74.8		
	11	46	3 "	Mania,	M	58	78	94	72	98	72	86	78	56	72	76.4			
				quiet, -	A	63	58	76	78	64	52	88	51	50	70		65.0		
	12	31	3 "	Mania,	M	96	91	87	89	93	80	110	96	81	96	91.2			
				quiet, -	A	93	93	82	80	79	79	78	86	70	76		81.6		
	13	68	3½ "	Mania,	M	62	66	68	60	68	64	64	61	68	64	65.1			
				quiet, -	A	68	54	66	50	58	68	54	57	60	62		60.3		
	14	25	4 "	Mania, some	M	84	94	88	100	90	108	98	98	90	89	93.9			
				excited, -	A	68	80	96	80	92	90	82	100	78	88		85.4		
	15	28	4 "	Mania,	M	77	73	77	72	73	72	100	81	89	101	81.5			
				quiet, -	A	76	67	76	74	86	92	76	102	70	104		82.3		
	16	20	4 "	Dementia,	M	73	97	98	74	76	92	67	70	90	90	82.7			
				quiet, -	A	80	72	66	72	71	89	74	101	82	80		78.7		
	17	22	4½ "	Dementia,	M	120	89	73	96	72	100	67	94	64	103	87.8			
				quiet, -	A	61	70	56	60	88	84	100	74	64	70		72.7		
	18	26	5 "	Dementia, -	M	86	86	102	96	108	102	100	89	99	95	96.3			
					A	72	76	96	87	106	84	79	80	80	83		85.3		
	19	21	5 "	Dementia,	M	60	92	86	62	88	92	97	110	98	84	86.9			
				quiet, -	A	69	68	70	62	70	103	85	80	61	86		75.4		
	20	28	5 "	Dementia,	M	96	78	78	63	80	76	87	71	81	90	80.2			
				quiet, -	A	70	67	78	7	84	94	88	64	82	92		79.3		
	21	32	5 "	Mania,	M	56	60	57	53	53	55	76	58	55	56	58.1			
				quiet, -	A	56	54	61	80	62	56	56	47	66	52		59.6		
	22	39	6 "	Mania, epi-	M	57	72	80	63	80	72	86	84	78	70	74.1			
				leptic, -	A	86	66	74	8	80	86	68	68	49	71		73.6		
	23	71	6 "	Dementia,	M	71	68	64	70	72	72	70	62	64	66	67.9			
				quiet, -	A	62	72	66	77	76	84	72	62	62	69		70.3		
	24	36	6 "	Mania,	M	69	66	59	73	67	68	58	61	55	53	62.9			
				quiet, -	A	64	60	60	58	59	53	50	52	50	54		56.0		
	25	80	8 "	Mania,	M	72	73	66	69	69	74	66	75	75	72	71.1			
				quiet, -	A	76	69	76	74	74	80	74	74	67	77		74.1		
	26	50	17 "	Dementia, -	M	72	72	72	6	92	80	79	76	76	92	77.9			
					A	70	64	64	60	74	72	83	65	62	100		71.4		
	27	41	19 "	Dementia,	M	103	72	86	90	98	92	96	89	81	75	88.8			
				quiet, -	A	69	79	96	79	94	88	82	90	83	70		82.9		
	28	48	30 "	Mania,	M	94	92	84	8	91	82	105	83	98	98	90.7			
				quiet, -	A	85	84	79	79	96	105	80	72	74	76		83.0		
	29	56	33 "	Dementia,	M	68	66	84	84	101	76	88	78	70	68	78.3			
				quiet, -	A	64	50	58	62	67	70	64	58	60	55		60.8	77.8	72.6

II. FEMALES.

	No.	Age	Time insane	Form of disease	Time	Pulsations per minute										Average		Total Average	
						1st Day	2d	3d	4th	5th	6th	7th	8th	9th	10th	M	A	M	A
Recent cases.	1	42	6 months.	Mania, convalescing,	M	70	72	74	72	80	70	62	80	62	82	72.4			
					A	76	84	70	78	70	76	68	72	80	78		75.2		
	2	50	6 "	Mania, quiet,	M	60	60	58	54	62	58	64	58	62	64	60.0			
					A	64	58	56	64	58	62	52	56	52	56		57.8		
	3	45	6 "	Mania, melancholy,	M	82	88	82	84	100	92	88	88	92	92	88.8			
					A	84	92	96	90	98	96	96	82	88	84		90.6		
	4	45	5 "	Mania, some excited,	M	62	68	76	64	64	64	76	64	60	62	76.			
					A	80	68	75	66	72	86	68	76	76	64		73.1		
	5	52	8 "	Mania, quiet,	M	76	64	64	70	84	68	66	76	68	76	71.2			
					A	76	66	72	60	64	65	62	64	60	76		66.5		
	6	19	9 "	Mania, convalescing,	M	68	78	70	64	74	68	64	100	68	80	73.4			
					A	92	76	64	70	76	72	68	64	72	72		72.3		
	7	25	11 "	Mania, convalescing,	M	80	76	72	60	68	68	62	100	90	80	75.6			
					A	68	66	82	70	72	72	72	76	76	72		72.6	72.5	72.6
Chronic cases.	8	26	1 year,	Mania, melancholy,	M	70	66	66	72	64	78	64	66	80	76	70.2			
					A	76	66	68	66	76	64	60	56	64	68		66.4		
	9	40	1 "	Mania, quiet,	M	76	80	82	70	72	72	80	84	72	80	76.8			
					A	76	80	72	76	64	76	62	76	64	76		72.2		
	10	45	3 years,	Mania, quiet,	M	65	60	62	68	72	60	70	64	68	68	65.7			
					A	75	64	64	72	64	68	80	64	64	68		68.3		
	11	37	3 "	Mania, some excited,	M	76	86	80	74	82	96	76	104	90	106	87.0			
					A	102	84	80	84	90	85	84	96	96	100		90.1		
	12	44	4 "	Mania, quiet,	M	62	64	60	60	62	60	64	60	58	60	61.0			
					A	72	78	60	60	72	60	60	58	60	60		64.0		
	13	43	5 "	Mania, quiet,	M	74	70	68	78	94	76	66	68	56	78	72.8			
					A	76	72	80	84	84	96	70	80	92	78		81.2		
	14	63	20 "	Mania, quiet,	M	106	68	68	66	65	66	80	72	60	88	73.9			
					A	68	64	58	86	100	88	90	64	58	80		75.6		
	15	29	6½ "	Mania, some excited,	M	92	84	80	80	82	116	84	76	78	76	84.8			
					A	80	88	82	84	90	100	86	80	81	88		85.9	74.5	75.4

Observations on the Pulse of forty Insane persons, at the New Hampshire State Lunatic Asylum. By WILLIAM H. ROCKWELL, M. D., Physician to that Institution.

I. ACUTE INSANE MEN.

In bed.													Out of bed.											
No.	Age	1st day	2d	3d	4th	5th	6th	7th	8th	9th	10th	Average	1st day	2d	3d	4th	5th	6th	7th	8th	9th	10th	
1	62	84	76	80	76	76	68	72	72	72	82	75.8	76	80	72	88	64	76	64	72	84	74	75.
2	36	64	68	76	76	72	68	72	72	64	68	70.	70	80	72	84	100	84	68	76	68	88	79.
3	45	92	92	96	100	120	96	112	108	104	110	103.	100	104	104	108	108	96	112	112	108	112	106.4
4	26	68	76	68	72	68	64	76	76	64	80	71.2	76	82	76	72	84	72	96	92	84	88	82.2
5	50	60	60	60	60	60	68	68	68	64	68	63.6	60	64	64	64	72	80	68	72	96	76	71.6
6	37	80	84	92	80	72	88	68	88	80	72	80 4	72	104	76	92	92	80	76	92	80	96	86.
7	29	60	60	60	60	60	76	64	60	68	64	63.2	64	72	60	64	72	80	72	88	72	84	72.8
8	60	100	100	100	108	100	104	92	100	100	92	99.6	102	104	96	112	96	92	104	96	96	96	99.4
9	57	80	82	92	84	84	88	88	88	88	80	85.4	68	92	80	84	72	76	76	84	84	80	79.6
10	40	68	72	84	80	76	84	76	89	72	88	78.9	64	96	72	92	64	72	72	80	80	84	77.6
Total average,												79.1											82.9

II. ACUTE INSANE WOMEN.

1	30	80	88	92	84	72	76	76	76	76	76	79.6	92	79	92	76	80	92	96	96	84	84	87.1
2	26	84	100	88	84	72	96	68	76	88	76	83.2	72	92	68	84	76	80	84	72	76	72	77.6
3	44	100	104	96	96	92	96	104	100	100	92	98.0	104	104	100	88	100	88	96	92	92	96	96.
4	26	64	88	84	92	76	68	76	92	64	88	79.2	68	68	88	68	76	64	82	68	96	68	74.6
5	44	92	76	92	88	80	84	92	84	81	88	85.7	96	104	80	88	88	92	100	92	88	92	92.
6	53	88	84	72	88	72	68	68	76	84	72	77 2	76	76	80	72	72	76	76	72	88	80	76.8
7	40	84	84	80	80	84	84	76	80	80	76	80.8	80	84	68	76	84	76	80	80	76	96	80.
8	45	76	68	72	76	80	96	80	84	76	88	79.6	72	96	88	84	76	76	100	108	92	84	87.6
9	24	88	92	88	96	88	96	100	100	92	84	92.4	92	92	100	112	108	100	96	104	104	96	100.4
10	42	80	96	84	100	84	96	96	88	92	88	90.4	92	128	100	104	96	84	96	84	96	96	97.6
Total average,												84.5											86.9

III. CHRONIC INSANE MEN.

1	31	80	88	96	68	72	60	76	68	72	72	75.2	84	92	108	96	100	100	80	76	76	84	89.6
2	26	84	84	92	68	68	76	72	72	80	80	77.6	68	76	76	72	68	72	72	68	80	76	72.8
3	29	88	76	72	84	76	72	72	68	72	64	74.4	100	100	100	96	84	100	96	84	92	96	94.8
4	28	88	68	84	80	76	76	72	76	64	72	75.6	88	96	80	96	88	92	72	92	76	76	85.6
5	57	76	72	72	64	64	64	76	68	72	76	70.4	92	84	80	92	76	76	80	80	68	92	82.
6	46	64	66	60	64	56	56	56	60	60	60	60.2	92	68	80	68	68	64	76	68	64	72	72.
7	52	68	64	72	72	68	64	68	68	68	76	68.8	92	72	72	72	68	68	64	64	84	88	74.8
8	46	80	84	80	76	80	80	72	72	84	84	79.2	112	72	92	64	84	76	76	96	100	72	84.4
9	23	64	68	60	64	64	64	68	68	72	60	65.2	84	96	100	92	88	72	68	68	92	72	83.2
10	36	60	56	64	60	64	52	56	60	60	60	59.2	80	72	84	76	76	68	80	64	76	64	74.
Total average,												70.5											81.3

IV. CHRONIC INSANE WOMEN.

1	35	80	84	84	68	88	64	80	84	80	76	71.8	80	84	88	76	80	76	76	84	84	84	81.2
2	39	92	80	84	72	88	92	84	100	72	88	85.2	96	96	92	80	80	92	76	96	96	96	90.
3	42	86	80	80	72	80	84	72	88	84	84	85.	80	84	64	84	76	80	84	84	84	88	80.8
4	50	88	84	68	80	88	76	84	84	84	88	82.4	88	80	100	84	76	92	84	84	84	76	84.8
5	54	64	80	80	84	72	68	80	80	72	80	76.	84	68	80	72	84	76	76	80	76	88	78.4
6	49	72	68	80	72	84	76	76	80	72	80	76.	84	76	100	92	72	72	84	88	76	88	83.2
7	51	80	72	92	72	72	68	80	72	76	80	76.4	68	72	68	76	72	64	76	80	60	64	70.
8	36	68	80	76	72	72	76	72	68	80	68	73.2	84	92	84	100	88	92	88	92	92	88	90.
9	45	88	76	84	84	84	72	80	73	72	76	78.8	80	96	84	92	96	88	88	88	92	92	89.6
10	34	104	88	102	96	100	100	96	96	84	92	95.8	92	80	76	100	88	96	64	64	66	96	82.2
Total average,												79.											83.

Observations on the Pulse of thirty-nine Insane persons. By Charles H. Stedman, M. D., Physician to the Boston Lunatic Asylum.

I. MALES.

No.	Age	Time	Pulsations per minute										Total		Average	
			1st day	2d	3d	4th	5th	6th	7th	8th	9th	10th	M	A	M	A
1	59	M	84	92	68	84	84	70	88	84	84	72	812		81.2	
		A	84	84	84	92	88	92	88	76	80	88		856		85.6
2	46	M	90	88	80	86	82	96	100	84	84	88	878		87.8	
		A	82	90	76	76	78	80	72	72	88	88		802		80.2
3	59	M	78	68	48	78	62	76	64	56	68	72	670		67.	
		A	72	80	86	76	66	60	80	72	60	72		724		72.4
4	35	M	112	100	96	96	104	96	88	78	96	92	958		95.8	
		A	80	78	78	76	80	84	76	88	72	68		780		78.
5	43	M	84	64	64	76	64	64	76	64	80	68	704		70.4	
		A	72	68	68	64	66	60	68	64	60	64		654		65.4
6	56	M	104	72	88	88	70	70	92	96	80	72	832		83.2	
		A	90	60	76	76	68	66	64	72	72	56		700		70.
7	35	M	66	88	64	76	64	68	60	66	72	68	692		69.2	
		A	66	76	74	72	72	72	64	64	64	64		688		68.8
8	26	M	112	80	64	80	104	78	76	70	100	76	840		84.	
		A	52	66	60	60	72	56	60	56	56	92		630		63.
9	51	M	66	60	64	66	96	80	88	72	88	80	760		76.	
		A	66	68	68	66	68	68	60	66	64	66		660		66.
10	31	M	76	86	84	72	76	76	70	68	76	80	764		76.4	
		A	78	76	76	76	76	76	74	72	68	84		756		75.6
11	34	M	76	80	88	52	76	88	68	72	60	56	716		71.6	
		A	72	68	58	58	40	44	40	44	44	42		510		51.
12	28	M	114	86	96	92	100	96	100	92	96	100	972		97.2	
		A	78	86	78	80	78	86	68	84	80	106		744		74.4
13	64	M	96	80	84	88	88	88	90	88	100	98	900		90.	
		A	78	84	84	74	68	66	64	72	74	80		744		74.4
14	28	M	108	102	108	104	110	104	104	112	104	108	1064		106.4	
		A	108	116	96	84	96	92	92	112	112	104		1012		101.2
15	18	M	108	102	102	112	100	98	108	108	104	104	1046		104.6	
		A	78	88	76	80	72	64	68	108	88	80		802		80.2
16	37	M	96	78	84	98	80	84	92	96	52	104	864		86.4	
		A	60	78	52	50	60	60	52	48	52	56		568		56.8
17	46	M	72	64	64	68	68	70	70	64	66	68	674		67.4	
		A	54	60	60	52	56	52	60	64	52	56		566		56.6
18	36	M	76	76	92	86	68	76	72	76	70	68	760		76.	
		A	66	68	76	64	68	60	56	56	76	56		646		64.6
19	41	M	120	110	104	112	100	108	112	104	106	108	1084		108.4	
		A	88	88	92	96	88	96	84	90	84	80		886		88.6
20	44	M	84	72	84	80	80	84	96	102	76	74	832		83.2	
		A	80	70	68	66	70	76	76	72	60	60		698		69.8
21	47	M	80	90	80	80	80	88	96	92	80	80	846		84.6	
		A	66	76	76	72	78	84	70	68	76	72		738		73.8
22	59	M	64	86	72	72	70	84	78	88	82	82	778		77.8	
		A	78	78	82	80	76	68	78	80	80	72		772		77.2
Total and total average, - - - - - -													18446	15936	83.8	72.4

II. FEMALES.

No.	Age	Time	Pulsations per minute										Total		Average	
			1st day	2d	3d	4th	5th	6th	7th	8th	9th	10th	M	A	M	A
1	40	M	88	92	86	86	92	88	98	78	92	82	882		88.2	
		A	90	68	68	84	72	76	76	76	80	84		774		77.4
2	24	M	96	78	68	76	84	80	72	72	72	76	774		77.4	
		A	84	78	78	72	80	76	68	68	64	64		732		73.2
3	39	M	96	112	92	100	96	96	100	100	100	100	992		99.2	
		A	84	96	80	98	92	90	96	92	84	86		898		89.8
4	48	M	90	80	86	80	88	78	72	88	104	96	862		86.2	
		A	96	84	88	60	96	92	92	106	112	96		922		92.2
5	36	M	76	92	92	88	94	88	92	92	96	88	898		89.8	
		A	80	84	84	78	88	80	90	88	82	82		836		83.6
6	34	M	108	88	104	84	96	96	84	92	84	92	928		92.8	
		A	78	84	76	80	90	88	100	84	84	84		848		84.8
7	59	M	96	80	92	94	98	110	96	88	100	92	946		94.6	
		A	78	108	74	80	76	76	82	70	70	74		788		78.8
8	23	M	96	80	84	108	92	100	92	88	104	84	928		92.8	
		A	90	84	96	88	80	96	80	94	84	92		884		88.4
9	26	M	96	80	80	64	86	84	72	92	76	76	806		80.6	
		A	72	90	68	62	84	72	72	76	64	70		730		73.
10	55	M	96	84	100	98	94	104	84	108	96	96	960		96.	
		A	104	78	82	84	80	84	76	84	76	96		844		84.4
11	47	M	96	88	86	88	96	98	92	92	86	68	890		89.	
		A	84	80	68	80	90	74	88	68	76	64		782		78.2
12	37	M	84	84	76	84	96	84	86	80	80	80	834		83.4	
		A	78	80	64	72	72	76	72	76	70	78		668		66.8
13	53	M	84	80	76	74	78	72	84	72	82	84	786		78.6	
		A	86	84	64	64	72	60	72	74	68	82		726		72.6
14	55	M	96	80	96	86	76	88	84	88	104	88	886		88.6	
		A	84	96	72	64	84	72	80	80	88	88		808		80.8
15	47	M	88	88	80	88	84	84	90	92	96	74	864		86.4	
		A	80	66	76	78	68	68	82	80	60	78		736		73.6
16	44	M	102	96	88	86	100	92	116	96	104	88	968		96.8	
		A	96	100	96	76	96	84	80	80	92	84		884		88.4
17	28	M	80	72	80	80	88	84	86	96	88	88	842		84.2	
		A	88	88	76	96	96	88	88	86	84	96		876		87.6
Total and total average, - - - - - - -													15046	13736	88.4	80.8

Drs. Bell and Chandler made but *one* observation, daily, upon each patient; Drs. Allen and Galt *three*, the former on a portion, and the latter upon the whole of his cases. In the cases last mentioned, the middle observation was made while the person was engaged in moderate exercise by manual labour. Of Dr. Galt's cases, he informs me that in two only were the persons wholly unemployed. The time at which the last daily observations were made, and the circumstances of the patients at the time, are somewhat diversified. Dr. Allen's were made in the afternoon, Dr. Ray's in the evening before the patients had retired for the night, and those of Drs. Awl, Earle, Galt, Rockwell and Stedman, while the patients were in bed.

The results of the respective tables are embodied in the following

Aggregate of averages.

	MALES								FEMALES							
	Recent				Chronic				Recent				Chronic			
	No. of cases	Morn	Eve.	In bed	No. of cases	Mor.	Eve.	In bed	No. of cases	Mor.	Eve.	In bed	No. of cases	Mor.	Eve.	In bed
Allen, - -	1	94.6	93.6		12	75.	74.9		1	78.8	79.5		7	80.7	80.8	
Awl, - -	5	72.2		66.3	20	71.2		64.9	5	72.5		71.8	20	81.5		73.3
Bell, - -	10	83.4			10	81.9			10	78.8			9	82.4		
Chandler,	2	58.2			6	66.4			4	73.4			3	86.1		
Earle, - -	10	86.1		68.9	24	83.		65.1	2	76.5		75.2	22	81.1		78.8
Galt, - -					16	65.7		66.9					16	73.		76.9
Ray, - -	4	76.9	73.4		25	77.8	72.6		7	72.5	72.6		8	74.5	75.4	
Rockwell,	10	82.9		79.1	10	81.3		70.5	10	86.9		84.5	10	83.		79.
Stedman, -					22	83.8		72.4					17	88.4		80.8
Total and average,	42	81.+	77.4	72.4	145	77.1	73.3	67.7	39	78.2	73.4	79.6	112	81.+	77.9	77.5

The general averages placed in the last horizontal division of this table are not the result of the addition of the superposed terms and a division of this sum by the number of those terms. This method, although perfectly correct, if the numbers of the patients examined by the several physicians had all been equal, would have been fallacious in the present case, where those numbers differ.

These averages were obtained by multiplying the average of each series of patients by the number of those patients, and dividing the sum of these products by the whole number of patients. Let a represent the number of each series of patients, b their average, and n the whole number of patients; then, if it is wished to obtain the general average, represented by x, the above method may be resolved to the following formula: $x=\frac{a\times b+a\times b+a\times b;}{n}$

a and b are, of course, variable quantities, and, accurately to represent any given example, must be repeated in the divisor of the formula as many times as there are series of patients.

From this table it will be perceived that the whole number of persons upon whom the observations were made is *three hundred and thirty-eight*, (338), of whom *one hundred and eighty-seven*, (187) were males, and *one hundred and fifty-one*, (151) *females*. Of the males, *forty-two*, (42) were cases of recent or acute, and *one hundred and forty-five* of chronic insanity. Of the females, *thirty-nine*, (39) were acute, and *one hundred and twelve*, (112) chronic.

The general average of the morning observations is as follows:

In the recent or acute form of disease, - - -	81.+ Males,	78.2 Females.
" chronic " " - -	77.1 "	81+ "

Observations in the latter part of the day, and while the individuals were out of bed, were made upon but *five* (5) males, and *eight* (8) females, in whom the disease was recent; and *thirty-seven* (37) males, and *fifteen* (15) females in whom it was chronic. Of these, the averages are as follows:

In the recent or acute form of disease,	- -	77.4 Males,	73.4 Females.
" chronic " "	- -	73.3 "	77.9 "

Of those upon whom observations were made while they were in bed, there were *twenty-five* (25) males, and *seventeen* (17) females, of whom the disease was acute; and *ninety-two* (92) males, and *eighty-five* (85) females, of whom the disease was chronic. The general averages of these were:

In the recent or acute form of disease,	- -	72.4 Males,	79.6 Females.
" chronic " "	- -	67.7 "	77.5 "

The following results are deduced from these general averages.

1st. In the observations made in the morning, and in the afternoon and evening, when the patients were not in bed, the averages of those of whom the disease was acute, are greater in males than in females; while, on the contrary, of those whose disease was chronic, the averages are greatest in the females.

2d. Of all the observations made when the patients were in bed, the general averages of the females exceed those of the males.

3d. Of all the observations made upon males, the general averages of those in whom the disease was acute exceed the same of those in whom the disease was chronic: whereas, in regard to females, the converse of this proposition, throughout, is the fact.

The following table exhibits the whole number of each class of patients, together with the number, in each series of observations, whose pulse averaged *above*, and the number which averaged *below* the general average of that particular series.

	Number above average								Number below average								Whole number of patients						
	Males				Females				Males				Females				Males			Females			
	acute		chronic		acute		chronic		acute		chronic		acute		chro.		a.	c.	tot.	a.	c.	tot.	agt
	m	e	m	e	m	e	m	e	m	e	m	e	m	e	m	e							
Allen, - -	†		*3	5	†		4	5			8	7			3	2	1	12	13	1	7	8	21
Awl, - -	3	3	11	9	1	1	10	12	2	2	9	10	4	4	10	8	5	20	25	5	20	25	50
Bell, - -	3		5		6		4		7		5		4		5		10	10	20	10	9	19	39
Chandler,	1		4		1		2		1		2		3		1		2	6	8	4	3	7	15
Earle, - -	4	4	15	12	1	1	11	11	6	6	9	12	1	1	11	11	10	24	34	2	22	24	58
Galt, - -			10	8			8	8			6	8			8	8		16	16		16	16	32
Ray, - -	2	3	12	14	3	*3	3	3	2	1	13	11	4	3	5	5	4	25	29	7	8	15	44
Rockwell,	3	4	5	3	6	4	5	4	7	6	5	7	4	6	5	6	10	10	20	10	10	20	40
Stedman,			10	*11			9	*8			12	10			8	8		22	22		17	17	39
	17	14	76	63	19	9	56	52	25	15	69	65	20	14	56	48	42	145	187	39	112	151	338

* 1 the same as average.

† Only 1 whose disease was acute.

From this table we find the following results, reference being had to the averages of each series of observations, and not to the general averages of all the observations.

Of 42 males, disease acute, morning observations, 16* were above, and 25 below the averages.
" 29 " " " afternoon and evening, 14 " " 15 " "
" 145 " " chronic, morning observations, 75 " " 69 " "
" 128 " " " afternoon and evening, 62* " " 65 " "
" 39 females, dis. acute, morning observations, 18* " " 20 " "
" 23 " " afternoon and evening, 8* " " 14 " "
" 112 " chronic, morning observations, 56 " " 56 " "
" 102 " " afternoon and evening, 51* " " 48 " "

In the subjoined table will be seen the number of patients in each series of observations, the average of whose pulse was in each decade from 40 to 110.

	Morning observations										Evening observations									
	Allen,	Awl,	Bell,	Chandler,	Earle,	Galt,	Ray,	Rockwell,	Stedman,	Total.	Allen,	Awl,	Bell,	Chandler,	Earle,	Galt,	Ray,	Rockwell,	Stedman,	Total.
I. MALES—*Disease, acute.*																				
40 to 50												1								1
50 — 60		2		1						3		1			1				3	5
60 — 70			1	1			1		3	6		1			6		1	2	6	16
70 — 80		1	3		3		2	6	6	21		1			1		2	4	8	16
80 — 90		2	3		3			2	7	17		1			2		1	2	4	10
90 — 100	1		3		3		1	1	3	12	1							1		2
100 — 110					1			1	3	5								1	1	2
II. MALES—*Disease, chronic.*																				
50 — 60		2		1		4	1			8		8			5	3	2	1		19
60 — 70	1	7	1	3	1	6	4			23	1	7			13	8	6	3		38
70 — 80	9	8	2	2	5	5	9	4		44	9	5			5	4	11	6		40
80 — 90	2	2	6		15	1	7	5		38	2				1	1	6			10
90 — 100		1	1		3		4	1		10										
100 — 110																				
III. FEMALES—*Disease, acute.*																				
50 — 60							1			1							1			1
60 — 70		1	2				2			5		1					1			2
70 — 80	1	3	3	4	1		4	3		19	1	4			2		4	4		15
80 — 90		1	5		1		1	3		11							1	3		4
90 — 100								3		3								3		3
100 — 110								1		1										
IV. FEMALES—*Disease, chronic.*																				
50 — 60															1					1
60 — 70		3			2	7	2			14		8			1	2	3		1	15
70 — 80	3	4	5	1	8	5	4	2	2	34	2	8			10	9	2	6	7	44
80 — 90	4	8	3		9	4	2	6	9	45	5	3			8	5	2	3	8	34
90 — 100		4		2	3			2	6	17		1			2		1	1	1	6
100 — 110			1							1										

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* In each of these series there was 1 the same as the average.

Hence it appears that, of the morning observations, the greatest number of averages in any decade is in that from 70 to 80, for both sexes and both stages of the disease, with the exception of the chronic cases of females. The greatest number of these is between 80 and 90. But, it will be observed, that there are many more above 80 than below 70: thus, of the males, whose disease was acute, there are 34 above 80, and but 9 below 70; and of the chronic, 48 above 80 and 31 below 70. Of the females, whose disease was acute, there are 15 above 80 and but 6 below 70; and of the chronic, 63 above 80 and but 14 below 70.

The greatest number of averages in the afternoon and evening observations is also in the decade from 70 to 80, excepting the males with acute disease, in which class the numbers between 70 and 80 and 60 and 70 are equal. But in the males, of both acute and chronic disease, the number *below* 70 exceeds that of those above 80: of the former, there are 22 below 70 and 14 above 80; of the latter, 57 below 70 and but 10 above 80. But this part of the tables is composed of incongruous materials, inasmuch as some of the observations were made in the afternoon, some in the evening, and some when the patients were in bed.

Selecting the cases of Drs. Awl, Earle, Galt, Rockwell and Stedman, all in which the observations were made after the patients had retired to rest, the results are as follows:—

	Males		Females	
	Acute	Chronic	Acute	Chronic
40 to 50	1			
50 to 60	2	20	–	1
60 to 70	9	37	1	12
70 to 80	6	28	10	40
80 to 90	5	8	3	27
90 to 100	1	–	3	5
100 to 110	1	1		

The maximum number of averages for the males, both acute and chronic, is between 60 and 70; that of the females, between 70 and 80.

It is proper, now, to introduce the observations of Amariah Brigham, M. D., Physician to the New York State Lunatic Asylum, at Utica. Having examined the pulse of nearly all the patients who, at the time of communicating the following results, had been admitted into that institution, he found the averages to be—

From 40 to 50 in 5 men and 0 women.
" 50 to 60 in 9 " " 2 "
" 60 to 70 in 61 " " 18 "
" 70 to 80 in 47 " " 32 "
" 80 to 90 in 69 " " 76 "

From	90	to 100	in 18	men	and 17	women.
"	100	to 110	in 16	"	" 35	"
"	110	to 120	in 2	"	" 10	"

These averages appear higher than those of the several series more fully reported, but this undoubtedly arises from the fact that there was no *selection of cases*, as in most of the other series mentioned.

H. A. Buttolph, M.D., assistant physician to the asylum at Utica, gives the following testimony in regard to the rapidity of the pulse in persons afflicted with mental disorders:—

"The result of my observations, thus far, is, that a majority of the insane have an increased frequency of the pulse; a pretty large number are natural as to frequency, and a smaller number have a preternaturally slow pulse."

Observations and Remarks upon the Pulse of the Insane. By Samuel B. Woodward, M. D., Physician to the Massachusetts State Lunatic Hospital.

"Last winter my attention was turned to the subject, and I examined a great number of cases once, and some more than once. The following was the result:—

1. Forty cases, recent and excited :	
19 males, average of the pulse, - - - - - -	80
21 females, " " - - - - - -	81
Total average, about	80½
2. Two hundred and sixteen cases, mostly chronic :	
110 males, average of pulse, - - - - - -	71
106 females, " " - - - - - -	72
Total average, about	71½
3. Fifty-four dull and demented cases :	
26 males, average of pulse, - - - - - - -	$68\frac{5}{6}$
28 females, " " - - - - - - -	$69\frac{1}{28}$
Total average, about	69

The first and last classes did not include, in any instance, the same individuals; the second class did include a few of each of the other classes.

"These patients were all examined when in a quiet state, mostly seated, some standing and a few in bed. The circumstances were most favourable for obtaining a fair average. It is difficult, in any way, to come at accurate results with a class of patients affected by so many influences as are the insane, even when the pulse is examined on many consecutive days. If the patients in my examination were found to be unusually excited, or labouring under a cold or influenza at the time, they were passed by, so that the average in all the cases, is doubtless low enough, and, perhaps, lower than usually would be found in the same persons. A stranger, I presume, might have followed me immediately and found the average considerably higher. On the whole, this and all my former observations lead me to conclude that, while in recent and excited cases, the pulse will average considerably above the standard of health, and in low, torpid and demented cases, somewhat below that standard, the great mass of chronic cases will be found to vary very little from the rest of the community, when quiet and undisturbed by passion, irritation, disease or other cause of excitement, in the frequency or force of the pulse."

Dr. Bell, of the McLean Asylum, has loaned me a collection of medical records made at that institution by his predecessor, the late Rufus Wyman, M. D., from the year 1820 to the year 1834. These contain observations upon the pulse, apparently made with care and accuracy, but without a designation of the ages of the persons, or of the duration of their disease. Extracting all cases in which there was a series of ten observations each, the following statistics have been obtained:—

Males, 164; general average of the pulse, - - - -	74.5
Females, 73; " " " - - - -	85.4
The lowest average of the males is, - - - - - - -	52.2
The highest " " - - - - - - -	109.4
The lowest average of the females is, - - - - - -	63.4
The highest " " - - - - - - -	102.

Of the males, there were 79 *below* and 85 *above* the general average.
Of the females, " 47 26 " "

In the subjoined table, all these cases are arranged according to the respective decades in which the pulse was found to average:—

	50 to 60	60 to 70	70 to 80	80 to 90	90 to 100	100 to 110	Total
Males, -	9	33	82	35	3	2	164
Females,	–	6	23	27	16	1	73

Of the males, the maximum number of averages is between 70 and 80; above 80 there are 40, and below 70, 42. Of the females, the highest number is between 80 and 90; there are 17 above 90, and 29 below 80.

As has been heretofore remarked, I was disappointed by not obtaining observations upon the adult sane. The following series made upon the pulse of 48 boys, from eight to twelve years of age inclusive, were furnished by William Rockwell, M. D., *late superintendent of the Leake* *and Watts' Orphan Asylum, at Bloomingdale, N. Y.* They are worthy of preservation for future reference and comparison :

No.	Age	Up, but at rest	After exercise	In bed	No.	Age	Up, but at rest	After exercise	In bed
1	8 years,	79	88	76	26	10 years,	75	88	72
2	8 "	82	84	80	27	10 "	78	80	76
3	8 "	70	84	68	28	10 "	66	72	64
4	8 "	83	86	82	29	10 "	80	81	80
5	8 "	74	79	70	30	10 "	80	93	76
6	8 "	75	88	70	31	10 "	84	96	80
7	8 "	69	74	66	32	10 "	82	94	78
8	8 "	74	80	72	33	10 "	80	88	78
9	8 "	79	78	80	34	10 "	76	78	76
10	7 "	76	88	70	35	10 "	74	80	72
11	7 "	79	84	76	36	10 "	79	88	76
12	7 "	83	86	81	37	10 "	76	88	74
13	9 "	83	86	80	38	10 "	73	82	70
14	9 "	66	68	66	39	10 "	81	86	80
15	9 "	70	88	68	40	10 "	77	88	74
16	9 "	72	92	70	41	10 "	80	86	76
17	9 "	65	80	62	42	10 "	71	82	66
18	9 "	84	86	84	43	11 "	80	96	76
19	9 "	78	86	76	44	11 "	77	80	74
20	9 "	78	80	78	45	11 "	85	72	82
21	9 "	82	88	80	46	12 "	84	92	78
22	9 "	70	96	68	47	12 "	74	76	74
23	9 "	70	76	68	48	12 "	70	96	66
24	9 "	83	96	80					
25	10 "	82	84	80					
Total average,					Total average,				
	7 years,	79.3	86	75.6		10 years,	77.4	85.5	74.8
	8 "	77.2	82.3	73.7		11 "	80.6	82.3	77.3
	9 "	75.1	85.1	73.3		12 "	76.	88.	76.

Art. V.—*Temporary Protrusion of the Eyeball, with loss of Vision, from rheumatic inflammation following Scarlatina.* By Isaac G. Porter, M. D., of New London.

Though single observations in pathology are, ordinarily, read with little interest, yet they possess no small value, when they throw light upon controverted physiological principles, or newly-discovered points in anatomy.

In the number of this Journal for July, 1842, is a highly interesting article from the Dublin Journal for July, 1841, by J. M. Ferrall, Esq., exhibiting his views respecting the anatomy of certain structures in the orbit of the eye, and the pathology thence deduced. The benefit of these new views was not enjoyed by the writer while the following case was in progress, as they were not published in this country until nearly a year after its occurrence, but in no way, except by their adoption, can its peculiarities be explained. Granting the anatomy to be, as maintained by him and others, and the difficulty is easily solved on common pathological principles.

Early in October, 1841, a daughter of P. S———, six years of age, was attacked with scarlatina, then sporadically prevalent. The efflorescence was but slight, and the soreness and redness of the fauces transient, and of so little account, that medical advice was not then sought. No unusual exposure, or error in diet, could certainly be regarded as the occasion of what followed, though from the slight illness of the child, both may have occurred without the knowledge of her parents. Ten days, however, from the appearance of the rash, there were slight febrile indications, followed by symptoms of jaundice, the skin and albuginea being discoloured, urine red and sparing, feces ash-coloured. This continued about a week, and, doubtless, arose from gastro-duodenal inflammation; and as it subsided, marks of irritation in other portions of the intestinal canal were evidenced by fever, picking the nose, grinding the teeth, discoloured and offensive dejections, with other indications of infantile remittent fever. Profuse diarrhœa followed, and, as this yielded, severe rheumatic pains attacked the extremities. These made their appearance about two weeks after the rash, and were thenceforth intermingled with other symptoms, affecting sometimes the wrists and arms and then migrating to the ankles—the part affected being so tender and painful as to forbid all pressure or motion. Moderate swelling was the only external sign of inflammation. The treatment, thus far, consisted in meeting symptoms as they arose. The jaundice yielded to counter-irritants and fomentations over the stomach and liver, with calomel, pulv. ipecac. comp., and laxative enemata.

The diarrhœa, as in other cases following scarlatina, was speedily checked by one or two mild cathartic doses of pulv. rhei, two parts, and hydrarg. chlor. mit., one part. The rheumatic pains were alleviated by anodyne fomentations and sinapisms, and pulv. ipecac. comp.

One month from the appearance of the rash, these pains, which had continued for a fortnight, began to diminish, when the right eye became swollen and painful. At first it was supposed to be confined to the lid, but it was soon evident, that other structures were affected.—The eye soon protruded one-half or three-fourths of an inch, giving a hideous aspect to the countenance, and was very hard and firm to the touch.* The lids became of a dark-red or purple colour, and so great was the projection of the eye, that they were forcibly separated from each other one-fourth of an inch; the eyelashes, from the same cause, being removed far asunder. The conjunctiva assumed a peculiar aspect, lying in folds, surrounding or overhanging the cornea, as in chemosis, though "amber-coloured," being filled with serum instead of blood. The iris was scarcely visible, and the cornea, so far as seen, was dull and hazy, though, owing to the encroachment of the conjunctiva, no satisfactory view of it could be obtained. The sight of the eye was probably early lost, yet from the age and debility of the child it was impossible to settle the point. The amount of pain did not seem *very* great, perhaps from her being constantly under the influence of anodynes. A sense of distension, or, perhaps, of itching, seemed almost constant in the swollen lid, and very slight friction, with a brush, seemed grateful, though pressure gave extreme pain. Reserving the treatment instituted for a subsequent place, we next advert to another phase of the disease. As the eye was reduced to its ordinary size, the hands and wrists became again painful, stiff and swollen. Soon they were entirely relieved, when evident symptoms of pericarditis appeared. The countenance became indicative of extreme distress, and there were severe darting pains in the region of the heart, with palpitation, difficult, catching respiration, with inability to lie on the left side. At times, there were paroxysms of faintness and distress, resulting in profuse cold perspirations. Occasionally there was febrile action, but the pulse was so weak as to forbid bleeding. A blister was applied to the region of the heart, and under the administration of calomel, opium and colchicum, the disease soon left her, since which time, after recovering her strength, she has enjoyed her usual health.

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* Though not a case of hydrophthalmia, yet, from its appearance, it might justly receive one of its synonymes "buphthalmus," or ox-eye.

Was this true rheumatism, or only "an analogous affection," which follows scarlatina? Watson, (Principles and Practice of Physic, p. 882,) whose opinion is entitled to great respect, is inclined to believe, that it is not genuine rheumatism, for he says: "I have noticed the painful joints were eased and benefited by friction, a circumstance which may help to distinguish this affection from true rheumatism. Another distinctive circumstance is, that although all these patients were children, the heart in no case became implicated with the tumid joints." The validity of this latter argument the present case, with its strong cardiac symptoms, must destroy. That pericarditis may not occur, after scarlatina, unconnected with rheumatism, we will not affirm, or even that there *might* not be a like occurrence, while the joints were, or had recently been, swollen with that disease, yet in such connection, as a general principle, the old law maxim, "noscitur a sociis," will be of safe application. It may be of little importance, whether this affection be, or be not, regarded as genuine rheumatism, yet, could the true pathology be ascertained, it might greatly influence our practice. As is true in that disease, so these pains are migratory, while their situation in the fibrous tissue, the aspect of the part, and the constitutional symptoms are all, likewise, similar. The effect of remedies is also the same in both: colchicum, mercury and opiates, proving in each, equally serviceable. Is it not possible, that from the peculiar irritability of the system, after scarlatina, the ordinary causes of rheumatism, acting in a slight degree, may be adequate to the production of the effects in question? and that, were the methods of cure, in severe cases, more decisive, (in mild cases only the mildest means should be used,) consisting of such articles as were used above, rather than in external applications, so apt in rheumatism to render it metastatic, yet, which are chiefly recommended by those who have alluded to the affections, as following scarlatina, it would be less likely to prove wandering, and thus dangerous?

That the affection may, safely and properly be regarded as true rheumatism, we would also argue, from that most interesting feature of the foregoing case—the protrusion of the eye. There having been from our first attendance, a scanty secretion of thick and bloody urine, though symptoms of anasarca were never very prominent, yet when the swelling of the eye commenced, it was referred to an œdematous state of the lids; but as it increased, the impression became predominant, that it was hydrophthalmia, and was so regarded by a consulting physician, of large experience in diseases of the eye. The urine, however, exhibited no coagulability by heat, and the symptoms, including the serous chemosis, which prevented an examination of the internal structures, did not justify the diagnosis; and neither has the result (this disease) proved much more amenable to medicine than hydrophthalmia. On the supposition of its dropsical origin, while anodyne and mucilaginous fomentations and poultices were applied to the part affected, nitre and digitalis were administered, without advantage to the eye or in increasing the quantity of urine; and it was not until after calomel had been continued for some days that any benefit was perceived. The protrusion, however, continued nearly three weeks.

But the internal structure of the eye had received irremediable injury, and the sight was lost. The organ is now (November, 1844) smaller than its fellow, its atrophied condition being manifest, not only by inspection, but by laying the fingers, alternately, on each globe covered by its lid. There is, also, a duskiness of the conjunctiva, which has been persistent, except as it gives place to evident vascularity, from the effects of exposure to cold.

We now return to the views of Mr. Ferrall, alluded to in the early part of this article. That gentleman, encountering a case of rheumatism, accompanied or followed by a painful affection of one eye, with evident projection of the globe, three-fourths of an inch beyond its fellow, and, being unable to account for the protrusion, instituted a thorough anatomical examination of the eye and its investments. A distinct sheath was found, surrounding the globe, of fibrous consistence, of a yellowish white colour, and which protected the globe from the action of the muscles, &c. This fascia,* he calls, "tunica vaginalis occuli," and as it was this which was affected in the case which originated the investigation, and in two or three other cases, where a similar protrusion existed, he named the disease "rheumatic inflammation of the tunica vaginalis occuli." I cannot better present my own views respecting the case, which occurred in my practice, and which differs from Mr. Ferrall's only as it was a sequel of scarlatina, than by transcribing his words:

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* [This fascia was previously described by Tenon, in a paper read before the French Institute in 1804. See "Mémoires et Observations sur l'Anatomie la Pathologie et la Chirurgie, et principalement sur l'organe de loeil." Paris, 1816. Ed.]

"Protrusion of the eyeball, which, when attempted to be explained by uncomplicated periostitis, requires some stretch of imagination, appears a very simple and inevitable result of inflammation of the tunica vaginalis occuli. There are here no soft parts to receive and divide the pressure or protect the globe. The tunic is supported by other fibrous layers, on its outside, as well as by the muscles, of which they constitute the sheaths. Inflammation of this capsule must, then, be immediately followed by pressure, and when we recollect its conical form, and that, as happens in case of inflammation of other fibrous tissues, *effusion at once takes place* into the cellular membrane, connecting it to the ball of the eye, we perceive there is nothing to prevent the dislocation of the latter."

"This effusion into the cellular tissue will make itself evident in another way. The conjunctiva, at the place where it forms the fold, in being reflected from the eyelid to the eye, closes up the tunica vaginalis in front. At this point it will not only receive the pressure of the effused serum, but will become separated from its connection with the sclerotic coat, by the extension of the infiltration; hence the amber-coloured chemosis without vascularity of the conjunctiva. Chemosis, originating in conjunctivitis, always presents, in addition to serous infiltration beneath, one or other of the forms of hyperæmia. The chemosis of which we treat is, in uncomplicated cases, the consequence of effusion from a deeper source."

ART. VI.—*Observations on Obstetrical Auscultation.* By L. S. JOYNES, M. D., of Baltimore.

THE application of auscultation to obstetrical diagnosis and practice, must be considered one of the most important improvements which medical science has received during the present century. It has furnished us with a means of proving the existence of pregnancy, and of ascertaining the life, death, and suffering condition of the fœtus in utero, far preferable to any before known. It has also supplied us with an additional means of determining the presentation and position of the fœtus at the commencement of labour. The following observations will, it is hoped, contribute something towards a due appreciation of this mode of diagnosis, which has, of late years, attracted considerable attention. Into the generalities of obstetrical auscultation I do not propose to enter; they are, or should be, too well known to the profession at the present day, to require consideration.

Considerable difference of opinion prevails among different observers, with respect to the utility of auscultation as a means of determining presentations and positions. M. Depaul, *chef de clinique* at the Hospital of the Faculty, in Paris, has given greater extension to this method than any other observer, and has made known the results of his investigations in an interesting thesis, presented to the Faculty some years since. His rules of diagnosis are founded on the two following leading principles, viz.:—

1. The sounds of the fœtal heart are transmitted to the ear with the greatest distinctness from the *dorsal* region of the fœtus, and particularly the left scapular region. The fœtus in utero, in fact, is compressed into a sort of ovoidal body, (by the folding up of the limbs in front,) corresponding to the shape of the cavity which contains it. The limbs, with a greater or less quantity of intervening liquor amnii, occupy the anterior segment; the trunk, the posterior segment of this ovoid. The heart being in the posterior half, and being there in relation with more solid conducting media than in front, its pulsations must, of course, be transmitted with greatest intensity from the dorsal region of the thorax.

2. The heart is nearest the cephalic extremity of the ovoid: its pulsations are conducted in every direction by the trunk; but necessarily to the greatest distance inferiorly, or towards the pelvic extremity of the ovoid.

Bearing in mind these principles, in order to determine the presentation, divide the uterus into two equal segments, by a line drawn horizontally across the middle of its axis. If the head, face or shoulder presents, the fœtal pulsations will be heard most distinctly *below* the line; if the breech, knees or feet, their maximum of intensity will be *above* this line. To distinguish a head or face from a shoulder, observe the direction in which the sounds are chiefly transmitted. If the shoulder be the presenting part, they will be transmitted most distinctly in a horizontal direction; if the vertex or face, the line of transmission will be vertical; that is, the sounds of the heart will be heard at a given distance above their maximum of intensity, with greater distinctness than at a corresponding distance laterally. I do not recollect that Dr. Depaul gives any stethoscopic signs, for distinguishing a presentation of the face from that of the vertex: such distinction must, in fact, be impossible, without the aid of an examination *per vaginam.*

To determine the position of the presenting part, suppose the uterus divided into two lateral halves, by a vertical line nearly coinciding with the median line of the body. Whenever the posterior region of the fœtus is towards the left side of the uterus, the fœtal pulsations will be heard to the left of the median line; when the back is towards the right side, they will be heard to the right of the median line. Thus we have the two fundamental positions. To ascertain the varieties of those positions, to distinguish an anterior from a posterior, (say the first of Baudelocque from the fifth,) is not so easy; generally, however, in the anterior position, the maximum of the cardiac sounds will be near the median line, while in the posterior, it will be more external, or towards the lumbar region.

Nothing can be simpler and more plausible than this system of M. Depaul: it is apparently in such strict accordance with plain physical principles, as scarcely to require the test of experience for its establishment. M. Depaul, however, has adduced, in his thesis, a large number of cases in proof of its truth and general applicability. Dr. H. Van Arsdale, of New York, who has called the attention of the profession in this country to the uses of obstetrical auscultation, in a paper published in the *New York Journal of Medicine*, for September, 1843, sustains the views of M. Depaul. Professor Stolz, of Strasburg, I believe, also coincides with him in according a high degree of confidence to the results of auscultation, as applied to the diagnosis of presentations and positions. These views have not, however, received universal assent. Professor Moreau is quoted by MM. Barthe and Roger, in their treatise on auscultation, as maintaining the impossibility of arriving at an accurate diagnosis by the aid of auscultation alone. Professor Dubois admits the possibility of making out the presentations of the head and breech; but thinks that the stethoscope does not enable us to distinguish their several positions. (*Dict. de Méd.*, art. "Grossesse.") M. Cazeaux, one of the most recent authorities, says, that when the maximum of the fœtal pulsations is below the umbilicus, and on the left side, we may generally diagnosticate a first position of the vertex; when on the right side, a second position;* but it is next to impossible to say whether the position be anterior or posterior. We may *suspect* a breech presentation, when the maximum of the fœtal pulsations is above or on the level of the umbilicus, but examination *per vaginam* is necessary to confirm the diagnosis. Lastly, it is utterly impossible, by auscultation alone, to detect a presentation of the shoulder.

No practical accoucheur can underrate the importance of this method of diagnosis, if it should be found to merit all the confidence reposed in it by M. Depaul and others. It would not be interesting merely as a matter of scientific curiosity, but would often be appealed to in cases of difficulty, where the ordinary means of diagnosis fail us. When, for example, at the commencement of labour, it is impossible to reach the presenting part with the fingers, we are almost certain that some other part than the head presents, and it becomes a matter of importance to determine, if possible, at once, the particular nature of the presentation. In such a case, auscultation would afford us valuable assistance, supposing the method of M. Depaul to be well-founded. Unfortunately, there is too much reason to fear that this is not the case. Having enjoyed, while a resident pupil of the Dublin Lying-in Hospital, an advantageous opportunity for studying the subject of obstetric auscultation, I turned my attention particularly to this point, and became soon convinced, that the stethoscopic diagnosis of presentations and positions, was far from meriting all the confidence which the attractive exposition of M. Depaul had led me to repose in it. I proceed to relate some cases which justify this conclusion.

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* I use the terms, first and second position, here, in the sense adopted by Naegele, who includes, under the former, all cases in which the occiput is towards the left side of the superior strait; and, under the latter, all cases in which the occiput is towards the right side.

Case. I.—The maximum of the fœtal pulsations was in the left inferior region of the uterus, where they were heard with extraordinary distinctness. It was impossible, for a long time, to feel the presenting part: when the os uteri was fully dilated, it was found to be the face in Naegele's second position, (forehead to the right side.) Relying upon auscultation, the diagnosis would have been a presentation of the vertex in the first position, or, (with vastly less probability,) a presentation of the face in the same position, or, possibly, if the sounds of the heart had been found to be transmitted in a distinctly horizontal direction, a presentation of one of the shoulders. It being impossible to feel the presenting part, the first supposition was, of course, excluded. The result demonstrated the fallacy of one of M. Depaul's fundamental positions, viz., that the fœtal pulsations are always transmitted with greatest distinctness from the back of the fœtus. It seems to me easy to understand why the reverse should generally happen in face presentations. By the extension of the head, the heart is thrown into the anterior half of the fœtal ovoid, and becomes much more accessible to the stethoscope in this direction than behind; the back of the fœtus being separated from the adjacent segment of the uterus by a considerable layer of the liquor amnii. Of this, any one may readily satisfy himself, by a glance at an engraved representation of presentations of the face. M. Dubois, in the article before cited, maintains that this may be the case in other presentations; he states, in fact, in general terms, that it is an error to suppose that the fœtal pulsations are always transmitted with greatest intensity from the back of the fœtus.

Case II.—The maximum of the fœtal pulsations was, "very decidedly," *above the umbilicus*, and to the left side. A first position of the breech was, therefore, unhesitatingly diagnosticated, and with the more confidence, as a round tumour was felt above the umbilicus, which was taken for the head of the child. It turned out to be a presentation of the vertex in Baudelocque's fifth position, the head being expelled with the forehead under the pubic arch.

This case goes far to invalidate the evidence of auscultation, even in those circumstances where it would seem, *à priori*, to be least fallible. It is easy to understand why, in such a posterior position of the head, the sounds of the fœtal heart should have been less distinct than usual in the inferior segment of the uterus; but the very elevated position of the *maximum* must be explained by a circumstance which has not been sufficiently taken into account. The sounds of the fœtal heart are transmitted with such distinctness along the spinal column, that they may be readily heard through the stethoscope applied upon any part of it, or even on the sacrum or nates. Of this I have satisfied myself, by the examination of the newly-born child. In the case just related, the stethoscope being applied upon the nates of the fœtus, (which, doubtless, constituted the tumour felt above the umbilicus,) with the intervention only of the solid parietes of the abdomen and uterus, received the sounds with greater facility than below, where it was separated from the thorax of the child by much worse conducting media.

Case III.—Presentation of the feet. The stethoscope was applied previously to the examination *per vaginam;* "but the heart was heard too low down to excite any suspicion of the nature of the presentation." The child was small, probably of the eighth month.

This case forms a striking contrast with the last. The low position of the maximum of the fœtal pulsations may be accounted for, *in part*, by the small size of the child.

Case IV.—The maximum of the fœtal pulsations was "so high in the abdomen as to leave no doubt of a breech presentation," it being at the same time impossible to reach the presentation with the finger. It was afterwards found to be a presentation of both hands. The shape of the uterus was peculiar, and might have served, perhaps, to correct the error of diagnosis. It did not rise so high as usual in the abdomen, but projected very far forward, and its upper surface was very broad and flattened: the motions of the fœtus were chiefly felt in the anterior projecting portion.

Presentations of this sort are always classed with those of the shoulder, and this case casts additional doubt upon the results of auscultation, in those cases where it has been generally considered as most certain, viz., in presentations of the breech. Comparing it with Case II., we are compelled to adopt M. Cazeaux's conclusion, that we can only *suspect* a presentation of the breech, when the fœtal pulsations are heard above, or on a level with the umbilicus.

Case V.—Presentation of the elbow. Before the complete dilatation of the os uteri, it was impossible to determine, by vaginal examination, whether it was an elbow or a heel that presented. The question was, in a great measure, decided by the stethoscope, the fœtal pulsations being heard low down on the right side; but there was no particularity to be detected in the direction of the *transmission* of the sounds.

While this case proves the incontestable utility of auscultation, when assisted by other means of diagnosis, it also serves, as far as a single case can go, to invalidate another of M. Depaul's principles, viz., that the fœtal pulsations are always transmitted to the ear with greatest distinctness in the direction of the trunk of the fœtus, and that, consequently, in shoulder presentations, this line of transmission is horizontal. The first part of the proposition would, probably, be generally true, if the trunk of the fœtus were always in contact with the antero-lateral parietes of the uterus, and thereby easily accessible to the stethoscope. But when it is posteriorly situated, and separated from the stethoscope by the intervention of a greater or less quantity of liquor amnii, and portions of the intestinal mass, the line of transmission of the pulsations must be far more obscure and difficult to be satisfactorily made out. Supposing, however, that it could always be easily ascertained, it scarcely follows, I conceive, that it should always be horizontal in shoulder presentations. It does not generally happen that the trunk, in such presentations, is placed in a strictly transverse direction; the head being in one iliac fossa, the superior portion of the trunk is at the superior strait; but the inferior and more considerable portion of it ascends towards the fundus of the uterus, being, more or less, bent laterally upon itself, so that the position of the fœtus is rather oblique than transverse.

Again, it not unfrequently happens that, in shoulder presentations, the head is near the symphysis pubis, and the trunk occupies a position nearly coinciding with the direction of the sacro-pubic diameter of the superior strait. In all such cases, the line of transmission of the fœtal pulsations should be rather vertical than horizontal.

Case VI.—The maximum of the fœtal pulsations, when the os uteri was dilated to about the size of a half dollar, was *below* the umbilicus, and to the *left* of the median line. They were also heard above the umbilicus on the same side, but more feeble, and on the right side, low down. The head was plainly felt above the umbilicus on the left side. It was found, notwithstanding, that the breech presented, in the second position, the sacrum being very far forward, near the symphysis pubis.

Here we have a double error, affecting both the presentation and the position, for the stethoscope would have indicated a presentation of the vertex in the first position. It is evident that the fœtus occupied an inclined position in the uterus, the head and upper part of the trunk being on one side of the median line, the lower part on the opposite side: the low position of the heart was the necessary consequence of this obliquity. This fact suggests a source of fallacy which may, perhaps, be not unfrequently met with.

The preceding six cases included the majority of presentations of *living children* other than those of the vertex, which occurred while I was in the hospital, and in which the circumstances permitted a careful stethoscopic examination. It is proper to add that there were four cases of breech presentations, (to which I may add a fifth, observed elsewhere,) in which the maximum of the fœtal pulsations was found above or at the level of the umbilicus. I recollect no case of presentation of the vertex, with the single exception related above, (Case II.) in which the maximum was not heard below the umbilicus.*

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* It will be seen that instead of supposing the uterus divided into two *equal* segments by an imaginary horizontal line, as M. Depaul does, I have followed MM.

From the cases related, however, we may infer that auscultation can, at best, only lead us to a *probable* diagnosis, and that it is liable to fallacy even in those cases where its indications are most certain; that is, where the maximum of the double of the fœtal heart is above or at the level of the umbilicus; for we have one case of presentation of the vertex, another of the hands, in which the maximum was so situated. With respect to the class of cases in which the maximum is in the inferior segment of the uterus, we are in such generally authorized to diagnosticate a presentation of the vertex, but only because such presentations are vastly more frequent than those of the face or trunk: in order to decide with certainty upon the existence of the latter, we must resort to external palpation and vaginal examination. If the face be found to present, in determining its position by auscultation, we must, I apprehend, reverse the rule followed in other presentations, and conclude that the *chin* is towards the point where the maximum of the fœtal pulsations is heard. Even in other presentations, CASE VI., shows that we cannot always determine the fundamental position, (that is, whether the occiput or sacrum is towards the left or right sides of the superior strait,) by auscultation. As to deciding whether the position be anterior or posterior, that is, whether the occiput, &c., be in relation with the acetabulum or the sacro-iliac symphysis, great difficulty will often be experienced. In the former case, however, the maximum of the fœtal will generally be found nearer the median line, just above Poupart's ligament. In presentations of the shoulder, where the position is doubtful, auscultation will doubtless enable us to determine it with much certainty, the head being necessarily on the side where the heart is heard most distinctly. But it is evidently impossible to determine by auscultation which shoulder presents.

It will be perceived that these conclusions coincide almost exactly with those above quoted from M. Cazeaux.

Although, therefore, auscultation does not by itself enable us to arrive at a certain diagnosis of presentations and positions, yet, when combined with other means of exploration, and in cases where those offer doubtful results, it is capable of affording us most important aid. In a case like the fifth above related, for example, its utility is apparent. Also, where we are in doubt whether the face or the breech be the presenting part, the stethoscope will enable us to decide the question with a great degree of certainty. Palpation of the abdomen will sometimes enable us to correct its indications in cases

Dubois and Cazeaux in placing this line at the level of the umbilicus, which is rather above the position assigned to it by M. Depaul. The diagnosis between presentations of the head and those of the breech is thereby rendered more certain than it would be if M. Depaul's rule were strictly followed. In the posterior positions of the vertex, it would be often very difficult to decide whether the maximum of the fœtal pulsations was above or below a line crossing the uterus in the *middle* of its long diameter, because, as we proceed posteriorly towards the lumbar region with the stethoscope in search of the maximum, we are obliged likewise to *ascend*.

where the examination *per vaginam* is unavailable, as where the doubt is between a presentation of the shoulder and that of the face; in the former case it is often possible to feel the head in one or other of the iliac fossæ.*

It has been pretended that the position of the child may be determined by the placental or uterine souffle, the anterior surface being towards the region where this is heard. (*Hohl*, quoted by Velpeau.) No one, who has had any considerable experience in obstetrical auscultation, will allow the least weight to this pretension. It is sufficient to remark that the souffle is very often heard in two different and diametrically opposite points. M. Depaul has also abundantly proved that there is no necessary or constant relation between the situation of the souffle and the point of insertion of the placenta.

A much more important application of the stethoscope is to the determination of the life or death of the fœtus in utero. Some difference of opinion prevails as to the degree of certainty which auscultation possesses in relation to this all-important matter. It is the opinion of some that the absence of the fœtal pulsations is no proof of the child's death. MM. Barthe and Roger admit that the position may be such as to render them inaudible; and M. Stolz holds that this is the case in all posterior positions, unless some part of the trunk of the fœtus be in contact with the lateral segment of the uterus, and thereby accessible to the stethoscope. M. Cazeaux, on the contrary, is of opinion, that although the posterior position of the fœtus, the presence of an excess of the amniotic fluid, the interposition of portions of the intestines between the uterus and abdominal parietes, and the presence of ascites, may render the fœtal pulsations more or less indistinct, they can never render them inaudible; and he states, that in from seven to eight hundred pregnant women auscultated by him at the Hospital of the Faculty, he never met with one in whom he failed, after the 6th month, to recognize the sounds of the fœtal heart when the child was really living. M. Dubois is convinced that these sounds can "scarcely ever" be inaudible in the latter months of pregnancy. M. Hohl states in general terms that they can *always* be heard when the child is living.

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* I may be here allowed to mention a most curious case which, so far as I am informed, has few parallels on record. It was a presentation of the breech in the first position: it was impossible for several hours to reach the presenting part with the finger, but the nature of the case was rendered absolutely certain by auscultation and palpation of the abdomen. The fœtal heart was heard over almost the whole of the left side of the abdomen, but the maximum was evidently above the umbilicus. The head of the fœtus was distinctly felt through the abdominal parietes, and the *sutures and fontanels were plainly distinguishable to the touch.* The sagittal suture was directed transversely; the anterior fontanel, whose four angles were easily recognized, was near the median line, and the posterior, equally distinct with the former, was towards the left side. It was a fifth child of uncommon size.

M. Velpeau, while treating of the posterior obliquity of the uterus, relates a case in which the head, instead of occupying the superior strait, projected over the symphysis pubis almost to the vulva, thereby so distending and thinning the anterior segment of the uterus and the abdominal muscles as to render the sutures and fontanels quite distinct to the touch. The elder Hamilton, also, I believe, mentions a somewhat similar case, in which the sutures and fontanels were so easily distinguishable as to cause him to apprehend that a rupture of the uterus had occurred.

I am convinced that the cases are extremely rare in which an attentive examination will not enable us to detect the pulsations of the fœtus when it is living, and that no possible position of the child can render them inaudible without the concurrence of other unfavourable circumstances. During my residence in the Lying-in Hospital more than five hundred women were delivered: auscultation was practised by the other resident pupils and myself in every case where circumstances allowed it to be done. I have no means of determining the precise number thus examined, but I have no doubt that it amounted to three-fourths of the whole number. Out of this number but a single case occurred which was calculated to throw the slightest doubt upon the results of auscultation as applied to the determination of the life and death of the fœtus. A woman, whose abdomen was much distended by an excessive quantity of amniotic fluid, was auscultated by two of the resident pupils at the commencement of labour, and the fœtal pulsations were indistinctly heard in the right inferior segment of the uterus. Some time afterwards, shortly before delivery, auscultation was again practised, but, it being impossible to detect the sounds of the heart, it was concluded that the child was dead: it was born alive, however, but died after a few feeble cries and inspirations. The presentation was natural. It may be interesting to state that the autopsy revealed an inflammation of the right pleura and peritoneum, with a copious fibro-gelatinous effusion, and extensive adhesions of the intestines. It is obvious that the child was dying at the moment of the second examination, which circumstance, together with the presence of an unusual quantity of the liquor amnii, accounted for the sounds of the heart not being audible.

Dr. Montgomery relates a case in which pregnancy was complicated with ascites, and in which the most careful and repeated examinations failed to detect the sounds of the fœtal heart. (Cyclopædia of Pract. Med., art. "Pregnancy.") The pregnancy, however, was no further advanced than the seventh month.* While it would be erroneous, therefore, to maintain that the fœtal pulsations may *always* be heard after the sixth month, when the child is living, we may, making full allowance for all unfavourable circumstances, establish the following law as admitting of no exception: *In uncomplicated pregnancy, at the full time, it is always possible to hear the sounds of the fœtal heart when the fœtus is alive and healthy.*

The superiority of auscultation over all other means of ascertaining the death of the child during labour is immeasurable. Those formerly relied upon, such as the cessation of the active movements of the fœtus, the fœtor of the vaginal discharges, the detachment of the epidermis under pressure, the state of the umbilical cord, and the discharge of the meconium, are either uncertain or often unavailable in the circumstances in which their evidence is most urgently required. Auscultation, on the contrary, is applicable under all circumstances, and always with equal certainty. It makes known not only the death of the fœtus, but the precise moment of its death; it likewise enables us to recognize disturbances of the circulation, (such as slowness, feebleness, irregularity, and intermittence of the pulsations of the heart,) which indicate a suffering condition of the fœtus, and would terminate fatally were not timely assistance rendered. We are thereby furnished with the most important and practical indications as to the moment of interference, and the particular method of delivery. This consideration is sufficient to entitle auscultation to the studious attention of the accoucheur, and to prove that he who neglects it wilfully deprives himself of one of the most important aids in practice which science has placed at his disposal.

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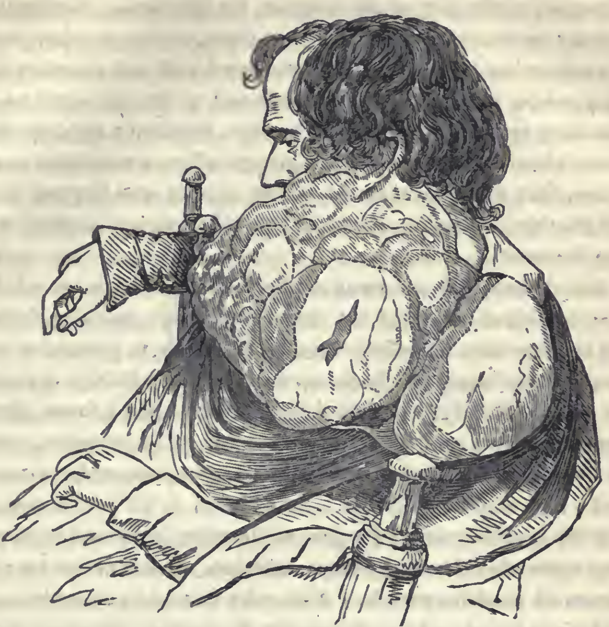
* Might not M. Nauche's idea of auscultation *per vaginam*, by means of his *metroscope*, be usefully applied in doubtful cases of this sort?

The uterine souffle has been relied on by some writers as a means of determining the life or death of the child. Its indications are as uncertain here as in most other cases where it has been proposed as a means of diagnosis. I have the notes of three cases in which the souffle was heard, (in one case "loud and extensive,") notwithstanding the children were, in all, not only dead, but putrid. Besides, even when the child is living, it is frequently absent at intervals. The same fallacy attends the souffle in the diagnosis of twin pregnancy, to which it has been applied by MM. Stolz and Hohl. It follows, from the observations of M. Depaul, that it is more frequently heard at two opposite points, even in single pregnancies, than at a single point. Nor do the fœtal pulsations enable us, in all cases, to determine the existence of double pregnancy. Although it is often easy to ascertain the existence of two hearts, beating with different degrees of velocity, the relative position of the children is occasionally such that the sounds proceeding from the one so mask and confuse those proceeding from the other, which is more posteriorly situated, as to render it impossible to distinguish them. It should also be remembered that it now and then happens, where there is but one fœtus, that the sounds of the heart are propagated so remotely and with such distinctness, as to render it a matter of no small difficulty to determine whether they originate from one or from two centres.

Art. VII.—*Tumour of the Neck of extraordinary size successfully removed.* By P. C. Spencer, M. D., of Petersburg, Va. (With two Wood Cuts.)

Thomas Wilkinson, a native of the neighbouring county of Sussex, 37 years of age, placed himself under my care at the beginning of the present year, for the surgical treatment of an enormous tumour of the neck. The accompanying sketch, by an accomplished friend of the writer, conveys an accurate idea of his situation and appearance at the time.*



The history of the case, collected from accounts given by himself and friends, was as follows:

The tumour had been in existence thirty years. It was described as being located, when first observed, at the angle of the lower jaw, and beneath the lobe of the left ear. Its presence and growth being wholly unattended by pain or annoyance of any kind, it does not seem to have created anxiety or to have attracted much notice during the period of his youth. This apathy, however, was not of long duration. Before he reached his 20th year, its great size, and the deformity and annoyance it occasioned, led him earnestly to desire relief.

It was then sixteen or eighteen years before the time of his application to me that he, for the first time, sought surgical advice and assistance. The tumour was at that time represented as being double the size of a large orange, and *firmly embedded beneath the angle of the lower jaw.*

He was immediately placed under treatment necessary to prepare him for its excision by a distinguished and very bold surgeon of this place, since deceased.

When the day fixed for it arrived, however, he was, much to his disappointment and chagrin, dismissed without the operation, the surgeon urging as a reason for the postponement that he had not been able to prepare himself with some necessary preliminary. Wilkinson was desired to return home, with the assurance, that so soon as this could be accomplished, he should be sent for. This promise was never fulfilled. Whatever may have led to the postponement on the part of the surgeon, the impression was created on the mind of the patient and his friends that the operation required was deemed one of a nature too hazardous to be attempted with any prospect of success. This impression was subsequently confirmed as the case wore on, since the many medical men, who, from time to time, obtained a sight of the disease, as the man's business called him from place to place, were almost unanimously of opinion, that the safe removal of the tumour was beyond the reach of art. With this conviction, the man patiently resigned himself to his fate, awaiting the issue.

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* The dotted lines in the fig. designate the linen patches on the tumour.

But the disease did not remain idle. Mass after mass of degenerate structure continued to shoot out from every side; reaching downwards it touched the shoulder, the whole breadth of which it proceeded to occupy, and then on both breast and back, as the drawing exhibits, it ultimately fell in large folds. Finally, its great weight, acting upon a frame already worn down and emaciated by the ceaseless irritation of its presence, precluded all employment, allowing him to remain in an erect posture for a short period only, and that at long intervals. In addition to all this, decay ultimately set up in the morbid mass. Patches of ulceration appeared on its periphery, resulting apparently from imperfect nutrition, caused either by pressure or lesion upon its nutritive vessels. Abscesses formed in its interior, tunneling it with large sinuses, which constantly discharged offensive matter, and hectic fever supervened.

Feeling that he could live but a short time as he was, and being convinced that the excision of the tumour afforded him the only chance for his life, the patient had arrived in town with the determination to have the operation attempted.

After a minute and tedious examination of his case, with several professional friends to assist me, we found it almost impossible to come at any thing like a positive opinion as it regarded the safety or practicability of an operation. This ambiguity and embarrassment arose from the exceeding difficulty of ascertaining correctly the parts involved in the attachment of the tumour, and in defining the nature of the operation required for its removal.

A glance at the figure will, in part, exhibit the perplexing nature of this inquiry. Firmly attached by a strong and almost unyielding band to the whole side of the neck, this shows the manner its sides shelved over all around, below, behind and before, wholly precluding any thing like a satisfactory examination, since there was but a narrow space for the hand to pass under to effect the exploration. Nor was this all; admitting that a free examination of the attachments of the tumour could have been made, its immobility on its stem, and the extent of these attachments were so great that nothing positive could have been ascertained of the parts involved likely to be wounded in an operation. Nothing is easier than to prove this by a glance at the bounds of its attaching surface. Extending from an inch above and behind the lobe of the left ear, these ran posteriorly on a line with the sterno-cleido mastoid muscle, (which it covered with the great vessels of the neck,) down to within an inch of the clavicle. In front, its connection ran from the ear over the cheek to a point midway below the chin, where it passed again downward in a line with the trachea to the top of the sternum. The whole formed a triangular connection or band, firm and almost immovable, at least six inches through its longest line.

It was a prominent question in the inquiry as to whether there would be danger or probability of wounding either one of the great vessels of the neck. This result, under ordinary circumstances, would not have been feared by the surgeon; but, in the present case, the accident could but be fatal, for the very plain reason, that the courses of these vessels in their entire extent was so completely covered by the diseased mass, which was so unyielding and immovable as to preclude entirely the possibility of securing them by ligature or other means, did it occur.

After being made fully sensible of these difficulties, the patient still persisted in his determination, and the operation was therefore undertaken as a dernier resort.

It was necessary to place him on a more generous diet than he had lately allowed himself, in order to insure him sufficient strength for the trial. Some eight or ten days sufficed for this result, and on the 9th of January, 1844, the operation was performed. A narrow table was provided, in a room tolerably well lighted, on which the patient was placed, lying on his right side, with his head elevated. Whilst in this position, in the presence, and with the assistance of Drs. J. F. Peebles and Jonas, W. Michial, all of Petersburg, I proceeded to operate.

My first design was to raise the tumour from behind, by cutting it away from the whole line of its posterior attachments, freeing it thereby from the great vessels of the neck as early as possible. For this purpose an incision was commenced about two inches below the ear, and carried on and down to the tumour, to within half an inch of the clavicle. The skin was carefully, but with great difficulty, (so closely was it agglutinated to the diseased mass,) dissected off to the neck. When this was completed, I cautiously proceeded to divide the adhering bands which had been exposed by the incision. The sterno-cleido mastoid muscle, attenuated to a mere filament, had been partly brought into view, and being closely affiliated to the diseased mass, was divided across, above the point where it is decussated by the omohyoideus.

When, by these means, its lower part had been freed, so that the tumour could be raised, the carotid artery was plainly seen beating in front of the line of the original incision, but now about an inch backwards from its still adhering surface.

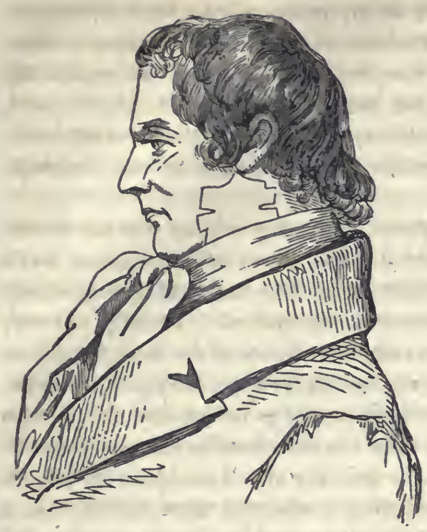
The tumour was next held, raised, and borne slightly forward, when the dissection was carried on without danger of wounding the vessels. The very strong and firmly adhering bands which connected the excrescence with the mastoid process of the temporal bone, with the tuberosity of the occiput, and with the transverse processes of the upper cervical vertebræ, were next severed in the order in which they presented themselves.

Up to this time no vessel of any importance had been wounded; the hemorrhage had been slight, the only embarrassment to the operation arising from the unpleasant strangulation, resulting from the pressure of the tumour on the trachea, as the patient lay, through the unavoidable manipulations, on it, already described. Starting under the ear, at the origin of the first, another incision was next extended through the skin down to the tumour, across the cheek to the chin, and then carried downwards on a line with the trachea, finally terminating in the first just above the clavicle.

Much time was next required in removing the adhering skin from the surface of the tumour, which was carefully done through the whole line of the incision, that it might serve as a covering to the wound, and many considerable vessels were wounded, two of which, one of them near the angle of the inferior maxillary bone, the other beneath the symphysis, requiring the prompt application of the ligature. When this tedious and exceedingly painful dissection was completed, the exhaustion of the patient was so great that I was forced to suspend my dissection about the throat in order that he might be allowed to breathe with the necessary freedom. But all its adhering bands had been severed, and the tumour could be raised; and, so soon as the patient recovered from this partial syncope, its final excision was readily completed.

Though overcome and greatly exhausted, the patient was found to be in quite a favourable condition; his pulse was good, and he had not suffered so much from hemorrhage as had been expected, the principal loss being, in fact, venous blood. A reasonable time having elapsed, and there being still little or no decrease of this oozing from the divided veins, a weak solution of creosote was applied to the wound. It had the desired effect almost immediately, and I proceeded to the dressing. The flaps of the skin, which had been left, covered the wound very well, considering that the nature of the case, leaving no choice in the matter, had obliged us to dissect without regard to this object, and having carefully brought them together, they were secured, and the wound closed by straps of adhesive plaster. The dressings were completed, and the patient placed in bed in forty minutes from the time the operation commenced. No accident occurred, and the night succeeding the operation was spent quietly and comfortably. On the second day there was a slight rise of fever, which was at once successfully combated by a mild purgative.

It is considered entirely unnecessary to detail further the progress of the case, for after this time no constitutional symptom arose, and its management became entirely a local affair.



The improvement of the general health proceeded *pari passu* with the healing of the wound, which, under the simplest treatment, was gradual yet progressive. On the 23d of January he left his bed entirely, and, late in February, he returned home in good health, and so altered in appearance that his nearest neighbours did not at once recognize him.

He has been seen within a few weeks by the writer, and he reported that the improvement of his general health had steadily progressed since his return home.

The tumour weighed within a fraction of twelve pounds. It evidently belonged to the class of non-malignant tumours. A further estimate of its true nature cannot be made, since, preferring to preserve it as a specimen, no dissection was made into its structure.

Art. VIII.—*Surgical Cases.* By Edwin Hall, M. D., of Saco, Me.

Case I. *Encephaloid disease of the tibia and soft parts—amputation—cure—re-appearing in the right lung—death—autopsy.*—May 3d, 1842, was called to see Thomas, son of James H—, aged 15. He was tall, of spare habit, with dark hair and eyes, and a very fair and light complexion. Though delicate in appearance, I learned that, previous to this attack, he had enjoyed good health. He complained of an intense and deep-seated pain in his right leg, which was not confined to one spot, but extended from the tubercle, giving attachment to the ligamentum patellæ, half way down the shaft of that bone. The patient located the pain in the bone—said "it was sometimes on the front, sometimes on the back side of it." The limb, though slightly swelled, had a natural look and feel, and was not tender to the touch, except in one spot of the bigness of a dime, just below the attachment of the ligamentum patellæ. No cause could be assigned for the origin of the disease farther than this, viz., the patient thought he hurt his leg sliding down hill the previous winter, and it had pained him occasionally since that time. A small opening had been made into the limb by the physician who attended him prior to my being called; but for what purpose I know not, as there was no evidence of a collection of matter or other fluid. The wound, though open, was free from discharge. As regards the general condition of the patient, his bowels were regular, tongue clean, appetite good, and pulse but little accelerated. Not being able to determine the nature of the disease, my prescriptions were such as the symptoms indicated.

In the course of two or three weeks, it became evident that the disease was rapidly increasing, but whether it would prove to be malignant, was a question as yet not easy to be determined. The limb had been gradually increasing in size, and was now somewhat discoloured. Feeling, as I supposed, a fluctuation on the anterior and external face of the limb, I made an incision into it. Nothing but a thin sanious matter was discharged, indicative of disease of the bone. A probe readily passed so far into the wound as to be felt on the opposite side of the limb. A considerable flow of blood followed the withdrawal of the probe. A few days after I made the opening, it was observed that the limb was increasing in size with more rapidity than it heretofore had done; that the edges of the wound had begun to avert and put on a fungous appearance. As soon as I observed this fungus, I apprised the parents of the malignancy of the disease, and advised amputation. But hoping against hope, they wished to defer it for a few days.

The only relief which the patient could get from the intense pain he has suffered since the commencement of the disease, was in large and often repeated doses of morphia, and poultices made of the fresh juice of conium maculatum.

June 4th. Dr. Hubbard, of Hallowell, being in town, was called in, and advised immediate amputation.

Condition of the patient at this time.—Much emaciated; pulse 130; glands in the groin not enlarged; limb below the knee exceedingly enlarged, very elastic when percussed, and of a purple tinge. A fungus of the size of a hen's egg protrudes from the wound made a week or more before. The lymphatics running over the diseased portion, resembled in size small varicose veins, and were filled with an amber-coloured fluid.

June 5th. Assisted by Drs. Tewksbury and Palmer, I amputated the thigh at its middle. The patient bore the operation remarkably well. Very little blood was lost.

After dressing the stump, we turned our attention to the examination of the limb. On cutting into it, a large quantity of dark fluid matter escaped, in which were irregular masses of what appeared to be muscular substance in a state of disorganization. In fact, the soft parts were so entirely disorganized, for the space of six or eight inches from the attachment of the ligamentum patellæ downward, that neither muscular substance nor blood-vessels could be recognized. Removing the fluid matters above mentioned, we found deposited on the posterior face of the bone, for the space of four inches below its head, a whitish substance, without organization and bloodless. In some places this substance was of the colour, and as soft as the cortical substance of a recent brain. In other places it was quite firm and hard, but without that elasticity and grating when cut, peculiar to scirrhus. Patches of this were observable on other portions of the shaft of the bone, within the confines of the disease. On the anterior and antero-external face of the bone, commencing an inch below its articular surfaces and extending down two and a half inches, we observed alterations in texture worthy of notice. A little external to the crest of the tibia was a fissure from an eighth to a quarter of an inch broad, which extended horizontally through the bone. The texture of the external lamellæ of the bone, for a considerable space about this fissure, was entirely and uniformly destroyed. It resembled a carious bone, and was quite dark-coloured. To a considerable extent around this fissure, as it traversed the bone internally, were the same alterations in texture which we have noticed externally. The specimen is in my possession.

The patient made a rapid recovery, and the stump healed kindly. During the summer he was as active as usual, and gained flesh. Still his countenance was pale and his pulse quick. Various alterative remedies were prescribed, but he received no benefit from them.

Was again called to see him, Feb. 6, 1843. He complained of pain in his right side, in the region of the liver. Bowels costive; tongue coated; pulse 130; skin dry. Cal. and rhei.

7th. Cathartic operated; no better. Blister to the side.

8th. More comfortable, but still complains of pain in his side.

On stripping him and measuring from the xiphoid cartilage to the dorsal vertebræ, I found the right side to be three inches larger than the left. There was a lateral curvature of the vertebral column to the left, of an inch, commencing at the fourth dorsal and terminating at the lumbar. Dull sound on percussion over the whole of the right side of the chest. Respiratory murmur inaudible. This condition of things convinced me that his former disease had re-appeared, and consequently that his case was hopeless.

10th. Right side measured as before, is four inches larger than the left. Dyspnœa great; some cough; raises some; appetite good. Ipecac. and morphia.

12th. Cough and expectoration have ceased, but the dyspnœa remains. Cannot lay in the horizontal posture. Has some difficulty in swallowing his food, which I attribute to the pressure of this immense tumour on the œsophagus.

23d. Patient has been getting gradually worse since last report; is now very feeble. Dyspnœa excessive. Superficial veins on the right side of the thorax enlarged. Expired suddenly in the evening.

Autopsy twenty-three hours after death.—Assisted by Dr. M. Call, we commenced the examination by opening the abdomen. The liver lay, almost wholly on the left side of the median line, as also the gall bladder. The stomach was quite small; its pyloric orifice lay almost directly below the cardiac. The transverse and descending colon was contracted to less than half its usual size, and was very light-coloured. The other organs normal.

Thorax.—The pericardium contained four ounces of serum. The heart was healthy, but forced out of its position to the left. Removing the heart, we found the left lung so much compressed by the right, that it appeared mysterious to us how it could have performed its functions so as to have sustained life for the last three or four weeks of the patient's existence. In its substance were two tumours, one of the size of a hen's egg, the other of the size of a walnut, granular, and resembling, more than any thing else, coarse-grained loaf sugar moistened with water. They appeared quite different from any thing observed in the other lung. No tubercles were observed in this lung. The right lung was one mass of disease. It extended down to within two inches of the right iliac crest, and filled nearly three-fourths of the whole cavity of the thorax. It was firmly adherent to the costal pleura, and resembled a lung only in shape. The division into lobes could not be traced. In the apex was a cavity containing about eight ounces of a dark turbid fluid, little thicker than serum; cutting into the lung, the outside to the depth of an inch, more or less, was generally very light-coloured, resembling the medullary substance of the brain. The central portion was rather dark-coloured, as if stained with blood, and fibrous when torn. No blood-vessels or bronchial tubes could be found. Some parts of this mass were soft, others hard and cartilaginous. The soft parts, which were always white, when cut, presented a mammillated appearance, as if the morbid matter was deposited in dilated air-cells. There was no unnatural smell about it; neither was there about the leg which this lung precisely resembled. This morbid mass, when removed and freed from fluids and other foreign matters, weighed ten and a quarter pounds.

Case II.—*Femoral hernia of the right side—operation twelfth day—cure.*—June 2d, 1842, was called to Mrs., wife of J—— M——, aged 50; found her suffering from femoral hernia of the right side. I learned that the rupture first happened fifteen years ago; that the tumour had been constantly down for a long time, and that it had often troubled her. The present attack, which commenced six hours prior to my being called, was far more serious than any she had ever had. The tumour was about the size of a hen's egg, and very hard. Bled her to syncope, and then attempted reduction; but the bleeding made no impression on the tumour. The remedies usually resorted to were successively tried, but without any effect.

3*d.* Patient no better; pulse but little accelerated; has vomited a good deal. I strenuously urged her to be operated on, but she would not consent.

4th. Dr. Hubbard was called in; patient getting worse; some febrile movement; vomiting continues. An operation was again strongly urged upon her, but she would not consent. Opium in four grain doses till a decided effect is produced. Plaster of extract of stramonium to the tumour.

5th. Patient much the same as yesterday. When fully under the influence of the opium, no impression could be made on the tumour.

10th. Since last report the patient has been gradually getting worse. The attacks of vomiting have been exceedingly troublesome, particularly one or two hours after taking nourishment. To-day the vomiting is stercoraceous. She has had large and often-repeated doses of morphia, to allay the irritability of the stomach. Pulse 130; bowels somewhat tympanitic.

14th. Patient very feeble; countenance extremely anxious; pulse 130; hiccough; has had stercoraceous vomiting at intervals since last report; bowels very tympanitic; nothing has passed them since the first day of June.

Shortly after I left, her husband called upon me, stating that his wife was willing to submit to an operation, and that he wished to have it performed immediately. I remarked that I thought it too late for an operation to be successfully performed, and that, under existing circumstances, I did not wish to undertake it. He was, however, so urgent in his request, that I at last consented. Dr. Ford was called in to assist. The operation was performed in the usual manner. We found the peritoneum much thickened, and firmly adherent to the cellular tissue externally. There was no omentum in the sac. The intestine was chocolate-coloured, and adhered firmly to the neck of the sac. It was so tender, that in endeavouring to insinuate a probe through the stricture, it passed into the intestine, though the utmost care and caution were used. Nothing remained then but to open the intestine and divide the stricture, which was accordingly done, when a large quantity of gas and fæcal matter escaped.

On the inner side and beneath the intestine, as the patient lay on the bed, I observed the appendix vermiformis, which indicated pretty conclusively, I thought, that the strangulated portion must be a part of the cæcum. I do not remember of ever having seen a case reported, in which this appendage was protruded into the hernial sac.

My patient began to rally soon after the operation. She was very much troubled with diarrhœa for the first week or more. Food would pass through the wound, almost unchanged, in one or two hours after being swallowed. All attempts to regulate the discharges by the artificial opening were of no avail, for in spite of all the tents, compresses and adhesive plasters I could use, fæcal matters would escape from the wound almost every hour in the day.

In about a week after the operation, the patient had a discharge by the rectum; the next day another of the same consistence as those by the wound. In another week the natural course of the bowels was fully established, and the discharges by the artificial opening ceased.

Remarks.—In reviewing this case, I am of the opinion that the patient owed her life to the opium and its preparations, which were freely administered to her during her sickness. Nor do I think that she could have survived till the twelfth day had it not been for this drug. Sulphate of morphia was the preparation used in the latter part of her sickness, as it agreed better than opium. It was generally administered in half grain doses, after an attack of vomiting, and, in many instances, would serve to prevent another attack till one or two hours after taking nourishment. Its influence on the mind of the patient was none the less salutary than its effect on the stomach and bowels. She was of a nervous and excitable temperament, and thought from the commencement that her case would terminate fatally. The reason assigned why she would not be operated upon was, that no matter what was done for her, she should die, and that every individual within her knowledge who had been operated upon did die. When under the influence of morphia, she was cheerful, and expressed but little anxiety respecting the termination of her case.

I regard opium as of great value in the treatment of hernia of aged people. I was, in August, 1842, called to see an aged lady labouring under femoral hernia. She was so feeble as to forbid the use of debilitating remedies. Half a grain of morphia was administered, and the hernia was reduced in about thirty minutes. About six months afterwards, I was again called to see her for the same difficulty. The same dose as before was administered, and not being able, after waiting the same length of time, to reduce it, I repeated the dose. Half an hour after the second dose, the hernia was easily reduced. A year afterwards, she was operated on by another physician for the same difficulty, he being unable to reduce it.

A neighbouring physician of respectability informed me that he once gave a patient a full dose of opium, after trying the usual means for reducing strangulated hernia without avail, to keep him quiet till daylight, in order that he might operate on him; and that when fully under its influence, the hernia was spontaneously reduced. The good effects which resulted from the use of opium in these cases, were attributable quite as much to the tranquillity of mind which it produced as to the relaxation of the system. One great cause of failure of reduction in many cases, is the fears and mental excitement which patients labour under when suffering from hernia. An article which, like opium, will allay this excitement, must be of great value.

Saco, *York Co., Me., Oct.,* 1844.

ART. IX.—*Cases of Strangulated Hernia.* By A. B. SHIPMAN, M. D., Prof. of Anatomy in La Porte College, Inda.

CASE I.—A SON of George A. Blodgett, æt. 8 years, very fat, had congenital inguinal hernia, which has often been strangulated. The mother, by giving a full dose of the camphorat. elix. opii, was always able to reduce it after his getting to sleep. It became strangulated on the evening of the 8th April, 1843, when the mother, after using her ordinary remedy, found herself unable to reduce it, and sent for a physician. Dr. Wm. J. Willson first saw him, and bled him to faintness, and made an attempt to reduce it; failing, he used several other remedies with like want of success. He called in Dr. Homer D. Jewett, and they both tried the taxis for some time. I saw him late in the evening of the 9th. The hernial tumour was large, hard, and so tender as not to be handled; while the whole abdomen was much distended and very sore. As the taxis and all the usual remedies for strangulation had been tried faithfully by the two medical gentlemen who had treated the case, I ordered a full dose of morphia, to be repeated until some degree of narcotism was produced, (a procedure which had often proved successful in my hands,) and cold applications to the tumour, and the hips to be elevated. April 10th, 10 o'clock, A. M. Visited him again; he had slept soundly through the night, and was so much under the influence of the morphia as to allow the tumour to be handled without complaint. The pulse was more calm, and less fever than on the evening previous, and less distension of the abdomen. The taxis was again resorted to with no better success than before, and the operation decided upon. This I proceeded to perform with the assistance of Drs. Willson and Jewett in the usual manner. The stimulus of the knife seemed to rouse his faculties; and, by the time the hernial sac was opened, he became perfectly outrageous, kicking, screaming, and making all manner of contortions of his body, notwithstanding two or three stout men had hold of him. After he was pacified in some measure, I proceeded with the operation; found about an ounce of liquid in the hernial sac, and about four inches of the small intestines in the stricture: the intestine was much distended with fæces and gas, and was highly injected and of a dark purple colour. I divided the stricture, which was at the inner opening of the ring, and was inspecting the intestine preparatory to returning it into the abdomen, when the patient began to struggle with all his might, and the assistants relaxing, perhaps, a little of their hold, a large quantity of small intestines began to roll out, fully distended with gas and fæces. This my assistants were unable to prevent; and the terror of the patient, at seeing his intestines roll out upon the abdomen, increased his efforts to escape from the hands of those who held him. The caput coli escaped with transverse arch of the colon, and this, on examination, was found filled with lumbrici, which could be distinctly felt through the coats of the intestines. After faithfully endeavouring to return them, I found it necessary to enlarge the opening in the abdomen with the probe-pointed bistoury, when the intestines were returned, although the child exerted himself with all his might against it. Returning the intestines occupied twenty-five minutes or more. The wound was closed with sutures and adhesive plaster, and a compress with a strong T bandage was applied and fastened by stitches.

11th. A dose of calomel, followed with ol. ricini was administered, which produced copious evacuations and a quantity of dead lumbrici of large size.

12th. Abdomen tympanitic; frequent pulse, and exquisite tenderness over the bowels; gave calomel, 5 grs. every four hours, followed by oil in the evening; fomentations to the bowels.

13th. Calomel and oil operated well; more worms; less fever; pulse less frequent; tenderness and tympanitis nearly the same; scrotum enormously swelled, and œdematous; continued calomel in small doses, with occasionally an anodyne of morphia and fomentations.

14th. The tympanitis and tenderness are nearly gone, and the fever trifling. From this time he improved rapidly; the scrotum became so much swollen and œdematous as to require scarifications; the wound was entirely healed in twelve days; the hernia was permanently cured.

Remarks.—The protrusion of the intestines in this case proved a serious accident, as I apprehend it must be always in children and refractory patients. Yet I conceive that it is not often a necessary consequence, as proper care on the part of the surgeon will always prevent such an occurrence. After the stricture is removed, and the patient is quieted, the natural tendency of the intestine is to return into the abdominal cavity, with very little trouble, unless there is a large portion strangulated, and that much distended; but, in this case, after relieving the stricture, I was examining the portion embraced by the stricture, when the struggle commenced, and the rapidity with which the intestines rolled out of the opening, took me by surprise; but, to return them through the small opening, filled as they were with wind, fæces and worms, with the resistance of the patient, and the violent action of the abdominal muscles, was a very difficult affair, and will prove a salutary lesson in future when operating upon children and persons destitute of discretion.

Case II.—John Brown, of Lisle, Broome Co., N.Y., æt. 61, of intemperate habits, but good constitution, had been afflicted with inguinal hernia for forty years. It often became strangulated, but he was always able to return it himself. He states, that about fifteen years ago it became strangulated, and that he was never able to return all the contents of the tumour into the abdomen, and that it gave him little uneasiness unless the bowel came down, which he generally kept up with a truss, which was worn above the tumour, made, as he supposes, by the omentum. April 20, 1844. Symptoms of strangulation came on, and he used the efforts and means which had formerly been successful; these he continued for two or three days without avail, when he sent for Dr. Lewis H. Kelly, of Marathon. Dr. Kelly bled him, and gave a cathartic enema, employed taxis, tobacco injections, cold applications to the tumour, nauseating doses of ipecac. These efforts were persevered in daily for six or seven days. Two or three small stools were procured in this time, but without giving any material relief.

I was sent for on the 29th of April to perform the operation. I saw him on the 30th in company with Drs. Kelly and Knapp. He had rested better through the night than usual in consequence of Dr. Kelly having given him a full dose of opium preparatory to the operation. Found the abdomen much distended, but very little tender; surface bathed in a profuse perspiration; occasional retching, which he had been troubled with several days; pulse calm; 80 per minute; tumour, which was situated high up, extending into the scrotum as large as the double fist; very hard, and exquisitely tender; he referred the commencement of the pain to a small point directly at the opening of the abdominal ring. On a close inspection, there seemed a slight division in the tumour, as if the sac contained two distinct bodies; yet the whole tumour is so tense and tender as to make the diagnosis obscure. After shaving the hair from the parts, I proceeded to the operation in the usual manner; found the hernial sac very much thickened, and nearly a gill of fluid in the sac, which contained omentum and a small piece of intestine, which had formed adhesions to the sac and omentum; these adhesions were carefully separated, and the intestine, which was somewhat dark, but not disorganized, returned into the abdomen. The omentum was so much thickened, and so extensively adherent, that I thought it best not to separate it. Immediately beneath the incision was still a large tense tumour, the upper boundary was nearly on a level with the external opening of the abdominal ring, while it extended half way to the bottom of the scrotum. It was of an oblong oval shape, of the size of a goose egg. I now suspected encysted hydrocele of the spermatic cord, and made a small opening into it at its lower portion. A quantity of fluid, judged to be half a pint, escaped; some portions of it was clear, of a light straw colour, mixed with gelatinous portions and pieces resembling coagulable lymph. On the evacuation of the fluid he became very faint, and complained of excessive pain in the testicle and spermatic cord. This pain was most excruciating, continued three hours, and was only relieved by large and repeated anodynes. I excised all the front of the sac, which was greatly thickened, with a view to the radical cure of this disease. The wound was brought together by sutures and adhesive plaster, with the T bandage. Dr. Kelly wrote me six months after that the patient had but little constitutional fever after the operation; that his bowels moved freely by the use of castor oil the night after the operation; that the wound healed in the usual time; there has been no descent of the intestine since; that the hydrocele of the cord was permanently cured; there is only a very small tumour of the adherent omentum, and that the patient's health is better than for years preceding the operation.

Remarks.—The length of time which this hernia had been in a state of strangulation,—the age of the patient, and his intemperate habits, rendered the diagnosis unfavourable. There is a great difference in cases as to the length of time that strangulation will run into a state of inflammation and gangrene, depending often on the age, constitution, and habits of the patient, and often, no doubt, on the circumstances of the stricture in each individual case, and on the treatment which is adopted at the time.

While some cases run on to gangrene, and a fatal termination in twenty-four or forty-eight hours, others, again, will survive eight or ten days, and, in one instance which fell under my observation, the woman lived twenty-one days after strangulation. The operation for strangulated hernia is not one of much danger; and the fatal cases are generally those where an operation has been delayed until inflammation has set in, and the parts nearly in a state of gangrene. Of all the remedies for the renovation of strangulated hernia which I have used, full doses of opium have proved the most successful. These, to be efficient, should be preceded by bleeding to faintness, and the doses of opium should be such as to produce some degree of *narcotism.* In this way I have very generally succeeded in accomplishing reduction, and often the hernia will spontaneously return when all the usual remedies have been faithfully put in practice, and the operation deemed the only course. The tobacco injection I have little confidence in, and it may do much mischief. In one instance I have known opium produce death in a very few minutes, but the quantity administered was inordinate. It calms the system wonderfully, and disarms the case of that terror and anxiety which a patient feels when strangulation has taken place. The abdominal muscles, instead of feeling tense, relax, and the patient makes no resistance by bracing his muscles, and straining them to their utmost tension. Besides, if you fail to accomplish reduction, he is in an admirable state for the operation, both physically and mentally.

The complication of this case with hydrocele of the spermatic cord, I presume, is somewhat rare—it rendered the diagnosis somewhat difficult. The hernia had been one of a great many years standing, and it is probable the hydrocele had been likewise. The omentum from the old adhesion had been in the sac a great many years, partially covering the tumour; and he informed me, after the operation, that he had made many and repeated efforts to return it into the abdomen. After he had returned the intestines he was obliged to wear his truss above the tumour, which gave him, at times, great pain, and there was a raw spot where the pad of the truss rested.

I have known hydrocele of the cord mistaken for strangulated hernia, and the operation performed; and I can conceive a case which it might require great discrimination and tact to distinguish. I have known psoas abscess to be mistaken for crural hernia, and have had patients come to me with a truss on such swelling. When the abscess first appears beneath the crural arch, the appearance and symptoms may lead to such mistake; but this mistake is harmless compared with mistaking hernia for abscess, and plunging a lancet into the tumour, when the escape of wind and fæces announce, to the astonished surgeon his error in diagnosis. Such an occurrence actually occurred in this state not many years since. The patient died, of course, from extravasation of fæces into the cavity of the abdomen and inflammation. It is not an unfrequent occurrence to be consulted by a patient with a truss on, who, on examination, is found labouring under varicocele. The mistake, of itself rather harmless, as the patient, finding his symptoms a little aggravated, applies again to his surgeon, who finds the truss does not keep the tumour in the abdomen, removes it, ascertains the true character of the difficulty, and either operates for the varicocele or leaves off the truss. Hydrocele is sometimes mistaken for hernia. An instance fell under my care not long since where a man came to me to get a certificate to exempt him from military duty. He stated to me that he had a hernia, and showed me several certificates to that effect from surgeons who had examined him annually for four years. I found him with hydrocele of the tunica vaginalis, and cured him soon after by an operation.

Cortlandville, N. Y., Nov., 1844.

REVIEWS.

Art. X.—*Théorie Positive de la Fécondation des Mammifères, Basée sur l'Observation de toute la série animale.* Par F. A. Pouchet, D. M., Prof. de Zoologie au Muséum d'Histoire Naturelle de Rouen, &c. Paris, 1842, pp. 161.

Positive Theory of the Fecundation of the Mammiferæ. By F. A. Pouchet, M. D., Paris, 1842.

De la Puberté et de l'Age critique chez la femme, au point de vue Physiologique, Hygiènique et Médical. et de la Ponte Periodique chez la femme et les Mammifères, Par M. A. Raciborski, Docteur en Médecine, &c., Paris, 1844, pp. 520.

Of Puberty and the Critical Age in Women, and of the Periodical Discharge of Ova by Women and the Mammiferæ. By M. A. Raciborski, M. D., &c., Paris, 1844.

Beweis der von der Begattung Unabhängigen periodischen Reifung und Loslösung der Eier der Säugethiere und des Menschen als der ersten Bedingung ihrer Fortpflanzung. Von Th. L. W. Bischoff, Doctor der Medicin und Philosophie, ordentlichem Professor der Medicin und Director des Physiologischen Institutes zur Giessen, &c. Giessen, 1844, pp. 54.

Proof of the Periodical Ripening and Separation of the Ova of Mammalia and Man, independent of Cöitus, being the first condition of their Propagation. By Th. L. W. Bischoff, M. D., P. D., &c. Giessen, 1844.

The patience and industry with which the comparative anatomist, aided by the microscope, has pursued the study of the intricate phenomena of animal life, through every stage and form of existence and in the most minute structures, have been richly rewarded by the attainment of results as important, as in many instances they were unexpected. In no branch of physiology is this remark more true than in that which relates to generation; a subject of surpassing interest, and, within a very recent period only, shrouded in the darkest mystery and uncertainty. It is true, that much entirely impenetrable by our present means of investigation remains still to be learned, but yet many steps in advance have been made, which may encourage to farther labour and investigation. The discovery, that the Graafian vesicle, instead of being a glandular body, destined to secrete a seminal fluid, actually contained an ovum, differing in the mammalia in no essential respect from those of the inferior orders of animated beings, was of the utmost moment, by removing one of those distinctions which it was supposed existed between these orders. Still it was alleged, that sexual intercourse was requisite to cause the formation of the Graafian vesicle. Investigation proved that they were found in virgins and even in infants. It was next asserted, that if sexual intercourse was not requisite to their formation, it was absolutely essential to the maturation and separation of the ova; driven again from this position, by the fact that in virgins, *corpora lutea*, which are the remains of ruptured vesicles, have been found, as a last resort, the physiologist was compelled either to call to his aid the influence of a high state of sexual excitement, or to deny that true *corpora lutea* were formed in virgins, pointing out, at the same time, the means by which the true might be distinguished from the false.

The labours of distinguished men have, at length, solved all these difficulties, by showing conclusively, that at the period of heat in the mammalia generally, and at each menstrual period in woman, an ovum, which has been gradually developing itself in a Graafian vesicle of the ovary, becomes mature, bursts from the vesicle and passes into the oviduct or Fallopian tube, whether sexual intercourse takes place or not, (indeed, that this whole phenomenon is entirely independent of cöitus,) and that after having passed into the oviduct, it may be impregnated if connection takes place and the seminal fluid reaches it, or it may be lost.

But we are anticipating our subject, and must proceed to direct attention to the works above-named, which are devoted to the relation of the experiments and conclusions of the authors on the subject of generation. As, however, the work of M. Raciborski embraces a wider range, taking up the subject of menstruation in a hygienic and medical point of view also, it shall first be presented to the reader, the discussion of the theory of the spontaneous periodical discharge of ova being deferred, though its truth must be assumed, until it regularly comes up in the course of this work, when it shall be considered in connection with the same doctrine as developed in the works of M. Pouchet, and of M. Bischoff, which are more exclusively occupied with the proofs of its truth.

An abstract of some of the conclusions to which M. Raciborski had been conducted, respecting the causes which influence the period of puberty, with one of the valuable tables upon which these conclusions were based, was laid before the readers of this Journal, in the April No. of 1844,* having been extracted from the valuable anatomical report of Mr. Paget. A brief recapitulation of these will suffice for our purpose and will serve as an introduction to much other matter relative to menstruation, which we would willingly give *in extenso*, so well is it brought together.

It is found, from extensive observation, that in Europe, (and probably elsewhere,) the period of puberty bears an inverse ratio to the degree of latitude, having a tendency to manifest itself later, in proportion as we proceed from the equator or as the latitude is higher; the difference being about one month for each degree. Unless, however, the mean temperature of the year corresponds with that which is general in a particular latitude, it will be found to occasion a difference in the period at which puberty is attained, this being later the colder the region is. The sober, frugal, regular habits of country life, are, as might be supposed, more unfavourable to early maturity than the artificial habits, the excitements and indulgences of the city, which are highly calculated to stimulate the nervous system and advance the period of womanhood. Misery, privation and disease, the latter, either the result of constitutional disposition, or of hardship and misfortune, exert a retarding influence upon the development of the generative organs, while the comforts and luxuries of wealth and the inestimable blessing of a strong and vigorous constitution unquestionably promote and, as it were, stimulate the ripening of the ova, which is but another term to express procreative maturity.

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* **Summary, p. 439.**

Nor are the effects of race upon the period of puberty less positive, though its influence may be much modified by long-continued residence in a different climate. Thus, from facts furnished to M. Raciborski, by M. Lebrun, physician-in-chief of one of the Warsaw hospitals, it is clearly demonstrated, that although among the Jewish women,—of which nation great numbers inhabit Poland, having preserved themselves very pure in their race and still maintaining strictly most of the laws and customs of their ancestors—maturity occurs later than in a more southern climate, yet the difference between them and the women of the Sclavonian race, has not, even after many centuries, been entirely effaced; for while among the Sclaves only one woman in one hundred is observed to menstruate before the age of thirteen, there are already twelve among the Jewesses.

Cases of extraordinarily precocious or retarded menstruation, the illustrations being chiefly drawn from M. Dezeimeris' excellent paper on the former, are next considered, their cause being shown to consist in the very premature or delayed maturation of the Graafian vesicles. An instance of what would probably have been a case of premature maturity, is given by M. Raciborski; on dissecting the ovary of a seven-months' fœtus, in which M. Mayor, Interne of the Hôpital des Enfants Malades, perfectly ascertained the presence of the pupillary membrane, a Graafian vesicle was found in it perfectly formed; so that if the child had been born at full time, she would probably have presented several Graafian vesicles perfectly formed, and would have exhibited, soon afterwards, evidences of menstruation; "menstrual hæmorrhage being only the rigorous consequence of the anatomical and physiological peculiarity," p. 86. The revolution of the economy which is observed at the age of puberty, is, as is well known, a very marked one even to the most superficial observer. M. Raciborski considers, that "the most unequivocal sign of procreative maturity, nay, even more certain than the menstrual evacuation itself, which, from its resemblance to other hæmorrhages, may sometimes lead to error, is the development of the mammary glands, of the pelvis and of the external sexual organs," (p. 97,) especially the covering of the pubes with hair, for it is well ascertained, he says, that when these changes occur, the Graafian vesicles have arrived at a degree of development, at which "they only await the command to burst and cause the first laying, (*ponte*,) which almost always coincides with the first eruption of the menses;" though such a *ponte* may and probably does occur, he says, before any hæmorrhage is observed, where girls experience periodically for several months before their menses appear, colics and pains in the abdomen and loins, &c., p. 98.

In a note to his description of the ovaries, contained in this chapter, M. R. says, that, to dissect an ovary properly, it should be steeped in alcohol or boiling water, to harden the albuminous liquid in the vesicles. This done, three incisions should be made through it, parallel to its long diameter, one along the median line, and one on each side; the two lateral incisions being close to the external envelop, present a large number of round depressions, filled, most of them, with a cheesy matter, white, or sometimes a little red—if a little blood is mixed with the albumen—of different sizes, rather more numerous on the anterior than the posterior surface of the ovary, which are, in fact, the Graafian follicles divided; whereas, upon the median incision, that which is usually alone made, but few will be found, and chiefly on the upper edge. By this mode of proceeding, some thirty or forty follicles will be discovered in each ovary of a young woman, at the period of puberty; these follicles being disseminated around the proper substance of the ovary, which forms a central nucleus.—pp. 95–7.

As to marriage in a medical and social point of view, which is next treated of; the only proper inquiry for the philanthropist and the physician is, at what age may a woman contract marriage so that she may be fitted to bear healthy and vigorous children, and be competent to discharge her duties as a mother; for, as Burdach says, "true maturity, which is designated by the term *nubility*, differs from puberty." Respecting this, our author's opinion may be thus summed up. Women who marry very young are often sterile, or liable to abortion, or bear miserable and unhealthy children; the mortality among these last being greater than among the children of women who have married later in life. From all the facts brought forward, he concludes, that it is after the age of twenty years that women, in the climate of France, (to which his remarks especially refer,) appear most apt for reproduction, and give birth to children which have most vigour, and the best chances of life. Hence the period between twenty and twenty-four years may be selected as in general that which is most advantageous for marriage, whether we consider the mother or the child, though the disadvantages of later marriage have been much exaggerated.—p. 125.

Too frequent pregnancy is an evil which has a tendency to enfeeble the woman's constitution, and hence it is desirable by all *proper* means to prevent it. None is more natural or favourable than lactation. The reports of Mr. Robertson and Mr. Laycock,* however, show that even this has been overrated, though the "generative faculty" is certainly less energetic during lactation than at other times. Another method, which is a deduction from the theory upon which the present doctrines are based, is according to the author, "to introduce a certain regulation in sexual connections." Common experience has already pretty well settled the belief that it is most generally soon after the period of menstruation that women are impregnated. Nægele, as reported by Bischoff, says that he has as yet never (*noch nie*) found the calculation of nine months and eight days from the last menstruation, in normal cases, to fail in calculating the term of pregnancy.—p. 43. Raciborski says that not more than six or seven women in one hundred become pregnant at periods remote from menstruation, p. 132, and in this he is supported by many other observers, who, with him, state that, with exceptions, impregnation is the result of unions which have taken place at the moment of, or immediately before, or a few days after the menstrual period; the last period, Bischoff thinks, may extend to from eight to twelve days, during which the ovum is passing along the Fallopian tube, the period in the rabbit being three days, in ruminating animals four or five, and, in dogs, eight or ten days.—p. 44. The conclusion which M. Raciborski draws is as follows: "By abstaining from sexual connections for from two or three days before the period at which the menses should occur until the eighth day after the menstrual evacuation, the chances of reproduction may certainly be considerably diminished."—p. 134. M. Pouchet says, "as it is more than sufficiently proved that in the mammiferæ it is at the epoch of sexual excitation that the ovules are expelled, and that at other times fecundation is impossible, it becomes equally evident, that, as the menstrual discharge in women represents this excitation, it is only in the neighbourhood of that period that our species possess the faculty of reproduction."—p. 97. An opinion in which he is fully sustained by M. Bischoff.

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* Am. Journ. Med. Sci., p. 184, Jan., 1843. Quoted from Dub. Med. Press, Oct. 16, 1842.

Can a girl who has never yet menstruated contract marriage with the hope of having children? This M. R. answers by saying, that, if there are physical defects, such as absence of the ovaries—which may be judged of by the external physical appearances indicative of puberty, after a woman has passed the usual period of maturity—or absence of the uterus, she, of course, cannot. But when no such defects exist, and the other evidences of puberty are complete, we should not hesitate to permit marriage; for, on the one hand, the hæmorrhage is not an essential phenomenon of puberty; and, on the other, it may only be retarded, and marriage may develop the latent energy of the sexual organs.

The hygiene of young girls, at the approach of puberty, merits peculiar attention, in view of the important duties they may soon be called upon to assume. By an attention to her diet, which should be nutritious and digestible, and which should be varied according to the constitution, and to proper methods of dressing, from which the corset should be utterly proscribed, by well-directed out-of-door exercise, such as gymnastics, walking, swimming and equitation, she will best promote a vigour and activity of system eminently qualified to favour the development of the organs which are soon to exercise so important a control over her future existence. Nor should the training of the intellectual faculties be overlooked. The author here, as in the consideration of diet, places himself stoutly in opposition to the system of making all fare alike, whether in their food or their studies, as is too generally the case in boarding-schools, where neither the capacities, tastes, nor constitutions are consulted, but where every girl must pursue the same studies, and under the same circumstances, with their companions, however little she may be qualified for so doing either by health or intellectual powers. M. Raciborski, following the lead of many gifted writers on female education, says, "These considerations especially, with others before alluded to, make us prefer for young girls a private education, under the direction of an intelligent and well-instructed mother, to public education, or that of boarding-school.***Besides, no other education (than that under a mother's guidance) can spread out so skilfully, before the eye of a young person, the seductive pictures of the world," and warn her of the sad realities they conceal.

Many interesting questions connected with the physical and intellectual education of girls, are touched upon in this chapter; but we are forced, full of instruction as they are, to pass on from them to the subject of the medical care and therapeutical indications in respect to young girls at the approach of puberty. Under no circumstances should we seek to provoke the menses in girls, who are in the enjoyment of good health, even though they may have passed the mean age at which these usually appear; and for the very best reason, because all our efforts would be fruitless, as nature has not provided for their appearance. The power of ill health and sickness to retard the occurrence of puberty, being satisfactorily established, we should seek to relieve any disease which may exist at the approach of that period, as the means employed for that purpose would probably act as the best emmenagogue. In one case only would it be proper to seek to favour the menstrual discharge in young girls indisposed at the age of maturity; and that is, when there is every reason to believe, from the present phenomena, that the Graafian vesicles are mature, but where the congestion of the genital organs, which then takes place, cannot relieve itself by the hæmorrhage.—(p. 218.) To diminish this general or local plethora, which is one of the causes of this condition, and to give a direction of the blood towards the external genital organs, general bleeding and the application of leeches to the inner part of the thighs or vulva, with warm foot-baths, enemata, cooling regimen, &c., are advisable. The same means may be pursued to a great extent, where the retardation is consequent upon extreme excitement of the utero-ovarian nervous system. In these cases, which are attended with dragging pains in the groins and loins, and by engorgement and swelling of the uterus, the author recommends, with many previous writers, the use of ergot.

Different affections may retard or interfere with the development of the Graafian vesicles, and thus prevent menstruation. Among these are what are called serious diseases, as fevers, &c., chlorosis and the scrofulous cachexia. The effect of the first must be counteracted by proper hygienic rules.

Chlorosis, characterized by the pallid colour of the skin, due to the extreme paleness and liquidity of the blood, (which has been shown by the admirable labours of MM. Andral and Gavarret, to be caused "by an actual atrophy of the blood, that is to say, by a more or less considerable diminution in the proportion of its globules, * * * the colouring matter which enters into their composition, being, of course, diminished in the same proportion," p. 242,) is a very common affection among girls at the approach of puberty, and " if, in such cases, they do not menstruate, it is because they are chlorotic; the chlorosis is never the effect, but the cause of the menstrual derangements."—p. 246. Hence the condition of the sexual organs in chlorosis, says M. R., affords no important indication; the treatment should be directed to put an end to the state of things which has given rise to this imperfect hæmatosis, and thus to bring about the establishment of the menstruation. A wisely directed hygienic treatment, such as the enjoyment of pure air, the use of a healthy tonic regimen, bathing, exercise, &c., and especially the preparations of iron, which are, in many cases, entirely indispensable, in all, advantageous, will generally correct this statement of deficient hæmatosis. It being very important, in the selection of a preparation of iron, to choose that which, by experience, is proved to be best adapted to the relief of this affection, M. R., by the assistance of M. Quevenne, Pharmacien-en-chef de La Charité, has entered very fully into a discussion of the properties of those now known in pharmacy. They are included under the following classification.

1st Division.	Substances not saline.	Metallic.	
		Protoxidised.	
		Peroxidised.	
2d Division.	Saline compounds.	Protoxidised	with a mineral acid.
			with a vegetable acid.
		Peroxidised	with a mineral acid.
			with a vegetable acid.

Without enumerating the different preparations thus classed, it will be sufficient here to mention, that those of the first division, insoluble in themselves, are rendered active only by meeting with an acid in the stomach; hence, those are most valuable which are most easily attacked by the weak acids; and, among these, none presents more advantages than metallic iron, prepared by passing over one of the oxides of iron, exposed in a tube at a red heat, a stream of hydrogen gas, which abstracts the oxygen, forming water with it, and leaves the iron in a state of extremely minute division. MM. Quevenne and Miquelard, by whom this was introduced, consider it as combining the two qualities most desirable in ferruginous preparations, *very great activity* and *absolute insipidity.*

The protoxidised compounds being regarded as having a more tonic and less astringent mode of action than the peroxidised, are, consequently—according to the views of M. Gélis, that the good effects of iron in chlorosis are due to a special action on the digestive organs and nervous system, by which the formation of globules in greater numbers is favoured—the most advantageous chalybeates in this form of disease. Among these the proto-carbonate, which is the basis of the pills of M. Vallet, and which, by the way, is the form in which iron is found in chalybeate waters, and the lactate are considered to be the best. Where a scrofulous tendency is at the same time observed, or when it exists alone, and is the cause of retarded menstruation, as it is well known to be when present, the protiodide of iron is unquestionably the best form.

We must pass by the author's remarks upon onanism and deformities arising from curvatures of the spine, and the very interesting and instructive chapter on the mechanical obstacles to the first appearance of the menses, to take up the consideration of the critical age in women. In addition to the usual causes which are observed to influence the duration of the menstrual period, M. Raciborski asserts, as the result of his investigations, that "it is in direct proportion with the number of labours, and that the more children a woman has had, the greater is the tendency of the menstrual period to prolong itself; * * * showing distinctly that pregnancy brings no derangement in the regular march of menstruation."—p. 327. Another proposition, to the same effect, is thus expressed: "If we abstract exceptional cases, we may establish the position, that the more precocious a woman is in the first menstruation, the greater disposition has she to have many children; and that, at the same time, the cessation of the menstrual function or *ménopause* will occur in her case at a more advanced age, and that, in consequence of the high degree of vital power, devolves upon the reproductive faculty."—p. 330. The *ménopause* presents two phenomena for our consideration; one, the cessation of the *ponte* and of the faculty of reproduction, the other functions increasing in energy, from which results, among other things, an increase of the fatty tissue; and the second phenomenon, a sanguine plethora, which is not relieved by the usual periodical discharge, and which may result, as is too well known, in serious consequences, unless wisely directed hygienic rules are observed. These points are carefully considered and developed in a very instructive chapter.

We have thus passed cursorily over the first part of M. Raciborski's work, which will be found, on examination, to be full of instruction and interest, though necessarily turning upon matters long since carefully investigated, and consequently presenting but little space for originality of views. Still, it is not entirely devoid of this source of interest, as will be evident from the analysis already made.

We are thus brought to the consideration of the facts upon which this new doctrine of generation is based; a doctrine which, by a coincidence not rare in the annals of science, is promulgated almost at the same moment by a number of distinguished men, whose occupations and pursuits have brought them by different trains of reasoning to the discovery, probably, in several instances, without a knowledge of each other's labours. It is true that the important truth had been foreshadowed, and even indistinctly perceived by recent investigators, as MM. Négrier, Paterson, R. Lee, Jones, &c., who were, however, too much wedded to old opinions to yield themselves immediately to the new light which was breaking in upon them; and it remained for M. Pouchet, the Professor of Zoology at the Museum of Natural History of Rouen, to give the first distinct and positive enunciation of the doctrine. In his work, whose title is given above, published in 1842, a work stamped with the impress of profound thought, clear perception, and thorough knowledge of the subject on which he was writing, M. Pouchet has developed, having taught it to his class since 1835, "the positive theory of the fecundation of the mammiferæ," with all the enthusiasm and energy of conviction. He has even anticipated and answered almost every objection; and, although some few errors may be discovered, they must be attributed rather to the fact that his conclusions are based upon a learned scrutiny of the records of science than upon actual experiments of his own relative to this point.

His conclusions are thus summed up in ten fundamental and three accessory physiological laws, the latter of which, though he considers them proved, may admit of argument. In a subsequent portion of our notice the general accuracy of these will be shown, and some of their probable fallacies pointed out.

"1st Fundamental physiological law.—The human species forms no exception; the phenomena of its generation follow laws analogous to those which are observed among the different animals, and they are even perfectly identical with the acts which take place among those which occupy the head of the zoological series.

"2d law.—Generation in all animals takes place by means of eggs, some inferior beings alone forming an exception.

"3d law.—In the whole animal series the ovules pre-exist fecundation.

"4th law.—Physical obstacles prevent, in the mammiferæ, the possibility of the seminal fluid being placed in contact with the ovules while yet contained within the Graafian vesicles.

"5th law.—In the whole animal series, without the possibility of question, the ovary emits its ovules independently of fecundation.

"6th law.—In all the animals the ovules are emitted at periods fixed, and in relation with the increased periodical excitement of the genital organs.

"7th law.—In the mammiferæ fecundation never occurs unless the emission of the ovules coincides with the presence of the seminal fluid.

"8th law.—The emission of the catamenial discharge of women corresponds with the phenomena of excitement which manifest themselves at the period of the *amours* of the different beings of the zoological series, and especially of the females of the mammiferæ.

"9th law.—Fecundation offers a constant relation with the emission of the menses; thus, in the human species, it is easy to determine accurately the intermenstrual period at which conception is physically impossible, and that at which it may be probable.

"10th law.—Assuredly there exist no ovarian pregnancies, properly so called.

"1st Accessory Physiological law.—Fecundation in the mammiferæ is normally effected in the uterus.

"2d law.—Abdominal and tubar pregnancies do not indicate that fecundation is effected normally *in* the ovary, and that it is this which causes the emission of the ovules.

"3d law.—Normally, the Fallopian tubes only contract from within outwards to transport the ovules."—p. 11, 12.

Important as was the work thus performed, it was requisite, before full credence could be reposed in this new doctrine, that it should be sustained and established by direct experiment; this task MM. Raciborski and Bischoff both claim, each for himself, to have performed, the former, it is true, with a full knowledge of the writings of M. Pouchet, the latter, as is evident from his work, without any such aid to stimulate him in the prosecution of his undertaking. M. Duvernoy, also, asserts his claims to have discovered this relation between the Graafian vesicle and menstruation, and he unquestionably did, in the autumn of 1842, develop this theory briefly before the Scientific Congress, which assembled at Strasburg that year, founding his opinions on analogical proofs.

M. Raciborski, on the 10th and 17th of July, 1843, read to the Academy of Sciences, of Paris, a series of papers on Menstruation, and the Periodical Discharge of Ova, in which he completely establishes this new doctrine, having, in the December previous, announced his intention of so doing at the earliest opportunity; these papers, full of interest and instruction, we shall have occasion frequently to notice. On the same 17th of July, M. Breschet communicated to the Academy of Sciences a letter from M. Bischoff, of Heidelberg, now of Giessen, dated the 29th of June, in which he revealed the important discovery, he at that time supposed original with himself. His labours, relative to the development of the mammiferæ and man have been some two years before the profession, and in the prosecution of his inquiries, with a view of ascertaining more exactly than had before been done, the precise period of the passage of the ova from the ovaria of dogs and rabbits, (he then supposing it to be dependent on cöitus, and to occur either during or some time after this act,) he was conducted to the knowledge of their maturing and separating from the ovaria, entirely independently of the influence of the male. Without delay he reported the fact, through M. Breschet, as well as his belief that the same law applied to women also, and that this phenomenon was coincident with the period of heat in animals and menstruation in women, both of which were caused by the congestion which always appeared at the moment of the full maturity of the ova; he also expressed his hopes that future observations would enable him to develop his propositions more fully.

In support of their respective claims, the works whose titles have been placed at the head of this notice have since appeared. Without pretending to decide positively respecting them, we cannot but think that the labours of M. Bischoff are best entitled to the merit of having experimentally proved the new doctrine, which he appears to us to have done in the most unquestionable manner. M. Raciborski, however, goes farther into the matter, not confining himself to the mere determination of the law, but examining and illustrating some of its most important bearings, and applying it more strictly to women, upon whom his own observations appear to have been chiefly made.

In the remarks which are to follow we will take as our guide the truly experimental work of M. Bischoff. We have already observed that it was long supposed that the laws of generation in the mammalia and man differed essentially from those which were known to govern the other classes of animals. Though it was well ascertained that in these last the development, maturation and separation of the ova occur independently of the male, the contact of the male semen, however, being necessary for their final development—in the first it was supposed that the congress of the sexes was essential to give origin to the product which the female contributed for the future being. Recent discoveries, by disclosing the existence in the mammalia of ova, which, from their minuteness, had escaped detection by earlier observers, dissipated in part the supposed distinction, although the belief still remained that, notwithstanding the demonstrated existence of *corpora lutea* in the ovaries of virgins, the act of cöitus was requisite for the maturation and separation of the ova. The contact of the male semen was essential to fit them to be discharged.

Fully impressed with the idea that the exit of the ova from the ovaria was the consequence of cöitus, or occurred during or soon after that act, M. Bischoff instituted a series of experiments for the purpose of ascertaining at what precise period the separation took place. He established, indeed, satisfactorily to himself, though M. Pouchet denies the possibility of such an occurrence normally, that in the dog, the semen penetrates in from twenty to twenty-four hours, and, in the rabbit, in from nine to ten hours, from the uterus, into which it is ejaculated during cöitus, through the oviduct to the ovaries. But he was, at the same time, convinced of his error in supposing that the separation of the ova was determined by copulation, though calculations, founded upon the above results, were approximatively accurate in determining the period of separation; for, as a general rule, none of these animals will allow themselves to be covered until the moment of separation has arrived, although the symptoms of heat may have continued for several days.

The following fact was among those which first opened his eyes. He took a young, stout, healthy bitch, which had never been pregnant, and carefully watched her. About the beginning of June, 1843, symptoms of heat were apparent, the dogs following her, and there being a bloody discharge from the vagina. She would not receive a dog, however, until the 11th of June, when she was lined, and immediately afterwards M. B. removed, from the living animal, the left horn of the uterus, with the oviduct and ovary of the same side. Upon an examination, with the microscope, which was immediately made, living and moving spermatozoa were found in the upper extremity of this horn, though none could be found in the oviduct: but, to his astonishment, he discovered that five Graafian vesicles in the ovary had already burst, and *corpora lutea* were already distinctly formed; upon further examination, the five ova were found in the oviduct, having already advanced *two* inches, and resembling exactly *ovary-eggs.* The next morning, about twenty hours after copulation, at which time previous experiments had taught him the semen might reach the ovary, the bitch was killed; and, although spermatozoa were observed still alive in the right horn, they had merely penetrated into the end of the oviduct, about two and a half lines. Five ova were observed at about the middle of this canal, and several lines apart, resembling, generally, those found on the left side, but not as yet surrounded by spermatozoa; while, on the ovary corresponding, there were five fresh *corpora lutea* more advanced than on the other side, but still presenting the central opening.

This experiment evidently proved that the separation of the ova had occurred previously to the copulation, for, as M. Bischoff remarks, copulation is now known never to have this effect, as he has found since, after several complete copulations of other bitches, that the Graafian vesicles were still entire, and besides, it is altogether improbable, that in a quarter of an hour, the ova could have advanced two inches in the oviduct, when they ordinarily require eight days to pass through its whole length of from two to three inches.

By a repetition of the experiments of Nuck, Haighton, Cruikshank, Grassmayer, Blundell, &c., which consisted in interrupting, by ligature or otherwise, the communication between the uterus and ovaries through the oviduct—experiments which, in their hands, were productive only of negative results, showing that fecundation was impossible under such circumstances, although *corpora lutea* were formed—M. Bischoff shows, that though the advance of the male semen through the oviduct to the ova is prevented, the Graafian vesicles still swell and burst, *corpora lutea* are formed, the ova pass out, arrive in the oviduct, and, not being vivified, shrink and perish, and that "hence, notwithstanding the intervention of copulation, the independent course of the development of the ova is proved."—p. 18.

The following observation shows decisively the independent maturation and separation of the Graafian vesicles and ova:

At 4 P. M., on the 7th December, 1843, M. Bischoff received a lamb, which for an hour past had manifested evidences of heat, but had not been mounted. He immediately shut her up, and next morning admitted to her a ram, which made several unsuccessful attempts to mount. As, according to Kuhlemann, sheep continue only twenty-four hours in heat; as Kuhlemann and Hausmann state that they have seen the Graafian vesicles opened twelve hours after copulation, and Von Baer, that he has seen the ovum of a sheep in the oviduct before the end of the first day, M. Bischoff concluded that the ovum had already left the ovary within the first twenty-four hours of heat, and had the animal killed between three and four P. M. In the right ovary, a Graafian vesicle was burst, and though its surface was not above that of the ovary, it was marked by a beautiful, bright-red circle of vessels around a small opening, an appearance perfectly familiar to M. B. in dogs and rabbits. Next morning he examined for the ovum, and, after very careful search, aided by a microscope and a fine needle, at length discovered the little ovule, having the appearance of an *ovary-egg*, under one of the little folds of the oviduct, at the distance of five lines from the entrance into the oviduct.—p. 24, *et seq.*

This observation proves most conclusively the maturation and separation of the ovum in a young virgin animal, consequently entirely independent of copulation. We may here remark, *en passant*, that M. Bischoff, in some very interesting microscopical observations upon the ovum, states, that though the yolk had what appeared at first sight a peculiar membrane, in consequence of a very sharp outline, which, in a certain position under the microscope, presented a dark line such as a membrane might give, he is, nevertheless, convinced that it was a deceptive appearance, and that, with the exception of the zona, the yolk has no distinct membrane, but is rather a gelatinous or albuminous sphere in which the yolk-granules are suspended and distributed, (pp. 27, 28.) A similar observation is made in reference to the ovum of a sow, noticed on p. 35, where the contour of the yolk was so sharp, that in certain positions under the microscope it resembled a membrane. M. Bischoff, it will thus be seen, denies the existence of a peculiar membrane covering the yolk in the ova, in opposition to the assertions that such a membrane is to be met with.

One more striking observation we will briefly record, which, by a double experiment upon the same animal, proves as satisfactorily as possible, the ripening and separation of ova during heat and without the aid of the congress of the sexes.

On the 18–19th December, 1843, M. Bischoff observed a large bitch to be in heat, though she would not allow a dog to mount her until the 21st. M. B. prevented the copulation, however, and on the 23d cut out her left ovary and oviduct; four Graafian vesicles were observed much swollen, but unbroken. They all contained an ovum, one of them two ova, which did not, however, appear fully ripe for exit, for not only were the Graafian vesicles not very thin, but the cells of the disc were not yet drawn out into filaments, which condition betokens the full maturity of the ova. M. B. observed here very carefully, in several Graafian vesicles, the mode and circumstances in which the ovum is situated in them. The cells of the disc form a small cup, whose concave surface receives the ovum, with which it floats free in the fluid which fills the cavity of the Graafian vesicle, while its base is fixed upon some part of the walls of the vesicle, probably exactly where this opens. Five days afterwards, upon killing the bitch, and upon the very first glance at the remaining ovary, M. B. observed that four vesicles had opened, there being four *corpora lutea* very distinct,—in two of them the mass of granulations constituting them forming a hernia through the opening of the vesicle. Upon carefully examining the oviduct, the four ova were observed close together, about three centimetres from the *ostium abdominale*, (the oviduct being thirteen centimetres long,) three of them being of their usual rounded form, one rather flattened and elliptic. We are compelled to pass over the very interesting microscopic observations which accompany this and all his other cases, but which add materially to the value of them. They would lead into too much detail, and are not essential to the establishment of the positions which form the chief object of the work. Thus far the author has proved, by a variety of examples—of which we have given but two or three—taken from dogs, rabbits, swine, and even a rat, that during heat, and without the congress of the sexes, the ova make their exit from the ovaries of mammalia and pass into the oviduct, but here perish. *Corpora lutea*, however, are formed in the ovaries, differing in no respect from those which are observed when copulation and fecundation have taken place.—p. 38.

Indeed, he lays down the following law, which, it will be seen, brings the generation of the mammalia under the same general rule which obtains in that of all other classes of animals.

"Both in mammalia and man, also, the self-forming ova in the ovaries of the female experience a periodical ripening, entirely independent of the influence of the male semen. At this period, which, in animals, is called heat, and in women, usually, menstruation, these matured ova separate themselves from the ovary and are pushed out. At this time, alone in animals, and especially in women, are sexual desires also manifested. If cöitus takes place, the fructification of the ovum follows, in consequence of the material action of the male semen upon it. If cöitus does not take place, the ovum does not the less separate from the ovary, pass into the oviduct, but there perishes. The relations of time, however, as it appears, may vary in different animals within different yet fixed limits. The semen may have sufficient time to reach the ovary before the ovum has separated. The ovum may also have already passed out, and the semen have first encountered it in the oviduct; the action of the semen upon the ovum must still, however, always take place, if the ovum is to be developed, which development is commenced while it is still in the oviduct. But at this period of the periodical ripening of the ova, alone, can cöitus be followed by fecundation."—pp. 4, 5.

It is necessary, still, to prove the applicability of this law to woman, and to show that menstruation actually corresponds with the period of the maturation of the ova in their ovaries. Without resorting to the facts furnished by M. Négrier, (who, by the way, was the first to give an accurate account of some of the true anatomical characteristics of the discharge of ova by women, with a description of the successive evolutions of the Graafian vesicles, from the moment of their formation until the ova separate from the ovary,) M. Gendrin, Robert Lee, Paterson, T. Wharton Jones, &c., which are, in themselves, conclusive, we will merely adduce the proof afforded by the authors whose works we are considering.

M. Pouchet, after accumulating a great number of proofs of the existence of a periodical menstrual discharge among animals, or, at any rate, when this is not observed, of a periodical afflux of blood into the genital organs, which is essentially connected with the rutting season, now known to correspond with the maturation of a Graafian vesicle, contends that the same phenomena in women must be due to the same causes, or that menstruation in them must correspond with the period of maturation of an ovum.

M. Raciborski, in addition to this mode of reasoning, describes the actual progressive development (pp. 53, 54, 92, 419) of the Graafian vesicles in the ovaries of women, as he has done also of those in the sow, in proportion as we approach the age of puberty. "In proportion as the ova ripen," he says, "the follicles which enclose them increase in size. Ten or twelve days before the *ponte*, they already become prominent above the surface of the ovary, sometimes in a nipple form, sometimes as a broad protuberance, having still semi-transparent parietes, and enclosing a yellowish-white viscid liquid, rich in granulations, visible by means of a microscope, and coagulating by means of alcohol, boiling water and nitric acid. At this period, if the body is opened shortly after death, the ovule may be quite easily distinguished in the midst of the granulations. The whole ovary becomes the seat of a strong congestion, and augments sensibly in volume."—p. 421.

"In proportion as the Graafian vesicles are developed, and the moment of *ponte* approaches, the parietes of the vesicle, although more and more distended, begin to appear less diaphanous, in consequence of the thickening of the internal membrane and of the hæmorrhage which occurs at the last moments in the interior of the vesicle. Finally, the point becomes evident at which the opening is to take place, at the most prominent part of the tumour. This point generally presents the aspect of a reddish spot some lines in extent, caused by a strong injection, and even partly due to a slight effusion of blood into the thickness of the tunics of the vesicles." —p. 424.

This injection of the ovaries corresponds with a strong congestion of all the genital organs of the female, which finally relieves itself by a hæmorrhage, constituting the menstrual discharge, at the end of which the ovum bursts forth from its envelop.

M. Raciborski reports two cases, which he was so happy as to observe, in support of these propositions. The first was that of a healthy, well-formed virgin, twenty-six years of age, who had had her regular menstrual discharge on the 30th August, 1842. On the 10th of September, seventeen days after, she was attacked with dysentery, which terminated fatally on the 30th of September, or one month after her last menses.

Her hymen, after death, was found intact, allowing but a small passage. The right ovary, sensibly larger than the left, presented a mammillated vesicle, covering with its base part of the anterior face, and having upon its surface some vascular ramifications, while its internal membrane was found covered with a rich and delicate net-work of vessels. This membrane was yellowish-white, scarcely a quarter of a line thick, and easily separated from the other coats, and contained within it a liquid which, under the microscope, presented a large number of white granulations, with many yellowish globules. A small cicatrix, with a red areola, was found on the posterior surface of the ovary, corresponding with a small excavation, large enough to contain a cherry-stone, covered by a membrane evidently folded, and, as it were, festooned at its edges, of an orange-yellow tint, and containing at the bottom a small softish black clot of blood, attached, by some filaments only, to the sides of the excavation.—pp. 421–4.

This last was unquestionably the trace of the previous maturation and separation of an ovum, and, without doubt, the Graafian vesicle, so much enlarged, would have been opened, had not the disease interfered with its entire changes.

Another observation is given of a girl, nineteen years old, strongly formed, &c., who was attacked with scarlatina, having had her regular menstrual discharge twenty-four days previously. She was sent to La Charité, where, two days after being attacked, she died. On examination, the two ovaries were found of greatly different volume, the left being the larger; on this a large protuberance was observed, with a spot upon its most prominent part, of a deep red colour, as large as a ten cent piece, surrounded with a broad areola of a lighter colour, and gradually losing itself in that of the envelop of the ovary. The spot was evidently the result of a strong congestion with effusion of blood into the thickness of the tissues. A crucial incision through it opened a cavity large enough to hold a very large cherry, filled with a granular matter resembling, exactly, the liquid of a Graafian vesicle hardened by alcohol, (it had been preserved in alcohol for several days before opening it,) only it was strongly coloured red. The internal membrane was no longer as vascular as in the preceding case; but presented no interval between it and the other. Besides this cavity, there was another, one half smaller, formed b[illegible] destined, probably, for the subsequent *ponte*. The left Fallopian tube was united to the ovary by old cellular adherences, its extremity being folded inwards, thus stopping up entirely its abdominal opening. The right ovary showed only some traces of ancient cicatrices, and some vesicles about the size of a pea—the right tube was obliterated at its middle.—pp. 425, 428.

M. Raciborski presents these two facts, showing the condition of the vesicles at about the time of the menstrual discharge, but has never had occasion to observe any who have died during this period. Still he concludes from analogy, and from some facts which are reported by others, that the rupture does not occur till the end of the menstrual evacuation. Upon examining a woman who had died from eight to twelve days after the cessation of her menstrual period, he says, you will always meet with traces of a rupture entirely too recent to be attributed to a later period than the last menses.—p. 432. One of the ovaries presents, then, a slightly prominent swelling, surmounted by a red spot, with a linear slit, of which the edges are already agglutinated together. Upon the ovary at this spot, a cavity will be observed, already smaller than that of the vesicle before the rupture, but filled entirely with a clot of blood, generally about the size of a moderate-sized cherry. M. R. has never, in forty cases, found this to fail. These clots may be easily removed, and the parietes of the vesicles generally present an orange-yellow colour, which disappears in alcohol. The surface of the membrane is slightly folded, and, as it were, tomentous, the place where the opening had been being usually more translucent than the rest of the anterior surface. M. R. considers these clots, like the fleshy masses in the vesicles of animals, as a sort of mould to prevent the too rapid retraction of the parietes of the vesicle, a retraction which commences as soon as it is broken. The folds of the internal membrane which had formed immediately after the rupture of the vesicle, disappear in consequence of their adhesion; the more liquid portions of the clot are gradually absorbed, the clot itself becoming smaller, the cavity constantly contracting, until, at about the end of a month, it could hardly contain a cherry stone, as was observed in the first case above. Finally, the parietes are brought together, a single yellowish or slate-coloured streak, or one < shaped, being the only trace left at about the end of from four to six months, generally. As long as the least trace of yellow colour remains, there still exist some traces of the internal membrane, its yellow colour being derived from an imbibition of the colouring matter of the blood.

Death occurring after an acute disease to a woman, habitually regular every month, will reveal in her ovaries marks corresponding with those above mentioned in every stage of development, while, if the disease had been chronic, of very long standing, the functions of the ovaries, like those of other organs, being arrested, they will either exhibit old cicatrices, or the vesicles will be pale and without injection, even if large. M. Raciborski remarks, as has been done by others, that the notion that the ovaries act alternately is entirely incorrect. He says, also, that in cases where obstructions in the Fallopian tube exist, so that the ovum cannot pass through it, the ovum may fall into the cavity of the abdomen and be dissolved without causing inflammation, the obstruction giving rise, as where the ovary is surrounded by false membranes, to physical sterility.

Thus the same phenomena are observed in women that are ascertained to be present in the females of animals; and the same argument by analogy, offered by M. Pouchet, relative to this point, is maintained.

The hæmorrhage from the uterus is merely an accessory to the phenomena of the periodical ripening of the ova, so that if animals do not present this, they do not therefore differ in the main and essential points connected with the function under consideration. Be this, however, as it may, many animals are known to present even this phenomenon, so that we must acknowledge the entire accordance in all essential matters between man and animals in relation to the function of generation.

Before leaving this part of our subject, we will advert to the opinion of M. Raciborski, in relation to the nature of the menstrual hæmorrhage: "It is nothing but a critical termination of the congestion which accompanies the highest degree of development of the Graafian vesicles. From all we have seen," says he, "it is probable that it coincides with the hæmorrhage which takes place in the interior of the vesicle some days before the *ponte.*"—p. 446. "It cannot, therefore, differ in its nature from that of the blood, which constitutes the element of these congestions, and should be composed chiefly of arterial blood, as experience proves it to be."—p. 447. The experiments of Denis and Bouchardat show that the fluid of the menstrual discharge differs from arterial blood only in being mixed with a certain proportion of mucus. But menstrual blood does not coagulate: M. Mandl has shown that the smallest quantity of mucus or pus mingled with blood prevents its coagulation; and it is known, that where large quantities are retained in the uterus, a symptom of dysmenorrhœa, clots are formed. We have thus fully exposed the opinions of M. Raciborski, which will be found as valuable, as they are admirably laid down by this most agreeable writer. To this statement of facts we find little to add from the work of M. Bischoff, whose observations relate rather to the inferior animals than to man. He states, however, that he has been so fortunate as to have had an opportunity of examining four healthy young women, of whom three were found dead in the water and the other died suddenly. In all, the evidences of menstruation at the time of their death were undoubted, and in three of them, at the same time, a Graafian vesicle in one of the ovaries was found burst and filled with fluid blood; and in the fourth, one uncommonly swollen was observed about seven lines in diameter. In one case, he afterwards learned that the person was actually menstruating at the time of her death. From Dr. Ecker, of Heidelberg, he has an account of a young person, aged 25, who was executed, having menstruated twelve days previously. Dr. E. found in one of her ovaries a Graafian vesicle, burst and filled with a fresh coagulum of blood. He was unable to find any thing of the ovum, as might be supposed at so distant a time.

We have thus accumulated a mass of evidence, which might be greatly augmented if it were desirable, showing the correspondence of the rutting season or heat in animals with the menstrual period of women; and we may conclude this portion of our notice with another law of M. Bischoff, which he doubts not will hereafter be found true in all particulars:—"During the years in which a woman is susceptible of impregnation, an ovum ripens and is separated from the ovary, every four weeks, this phenomenon being accompanied by simultaneous hæmorrhage from the uterus. This periodical maturation of an ovum is the first and most essential condition of conception and pregnancy. At this time alone will cöitus be followed by conception; at all others this last will be impossible."—p. 43.

It is almost unnecessary to remark, that during pregnancy and for some time during lactation, this last period, varying in different women, there is a cessation of the function of secretion, if such a term be allowable, on the part of the ovaries. We have already adverted to the opinions of our authors, upon the length of time during which impregnation is possible at each menstrual period; and we have, also, noticed an objection which may be started against this theory, and which is satisfactorily answered by our authors, viz., that women often conceive who have never menstruated—an objection which is rather specious than real, for it has been shown, that menstruation or the bloody discharge is not essential to indicate the maturation of the ovum. It may ripen, as in many animals it does, and may be discharged, without the slightest appearance of hæmorrhage.

The ovum must leave the Graafian vesicle before impregnation can take place, and hence, say Pouchet and Raciborski, ovarian pregnancies are impossible except in the case supposed by MM. Pouchet and Négrier, in which, after the rupture of the vesicle, by some means or other, the ovum is retained *in sitû*, so that it may there be vivified by the spermatozoa, and, in consequence, may develop itself within the gland. "These cases, if they can occur, must be necessarily rare," says M. Raciborski, for the instances of ovarian pregnancy reported are very imperfect, and very far from being conclusive.

M. Raciborski evidently admits the fact, that the semen passes through the oviduct to the ovaries, for he considers that tubar and interstitial pregnancies, such as are reported by M. Breschet, are not at all impossible; and although M. Pouchet denies the possibility of the semen passing along the Fallopian tubes to the ovaries, unless in exceptional cases, under the influence of sudden alarm or moral emotions—because the natural action of these ducts is to convey the ovum from the ovary to the uterus, where, he asserts, that it is impregnated—the experiments of Barry and Bischoff prove conclusively that the fact is not so, for they have both seen spermatozoa upon the ovary itself, and the latter had established this point so satisfactorily to his own mind, that he founded upon it the belief, which, until within the last two years, he entertained, that the contact of the spermatozoa was essential to the fecundation and separation of the ovum from the Graafian vesicle. It was, indeed, in the course of an experiment, undertaken for the express purpose of ascertaining how far the semen penetrated during the actual congress of the sexes, that he discovered his error respecting the supposed necessity of the contact of the spermatozoa for the separation of the ovum. His experiments prove, that in the dog the semen requires twenty hours to reach the ovary; and in the rabbit, from six to ten hours, though, as a general rule, impregnation or the contact of the spermatozoa with the ovum, which is essential to impregnation, takes place in the lower third of the oviduct in dogs, and in the upper third in rabbits. Bischoff's idea is, that the first development of the ovum, manifested by the separation of the yolk, takes place in the oviduct, the fructified ovum then passing along to the uterus.

We must still notice an error which has crept into the works on physiology, but which is a deduction from the usually-taught doctrines of generation. It is that the Fallopian tube, at the moment of a successful cöitus, is, in consequence of some supposed voluptuous spasm, caused to twist about until it applies itself, by means of its fimbriated extremity, to that portion of the ovary where the ovum, which is about to burst forth, is situated. M. Pouchet shows the fallacy of this doctrine, which must be obvious to all who reflect for a moment upon what must necessarily take place at each menstrual period, or at the time of the ripening of each ovum: why it applies itself to the ovary at this time, which it must do, we are unable to determine farther than that it is part of the beautiful provision which nature has made for the perfection of the functions we are considering, and no voluptuous orgasm is requisite to account for its occurrence.

Can sexual congress hasten the maturation of the ova? Though it is altogether probable that the functions of the ovaries may be stimulated by the excitement of venereal desires, and by their gratification, as it is well known they may be by the education of the senses, as by music, painting, &c., it is difficult to prove the fact. M. Pouchet believes, that "sexual intercourse may hasten the emission of ova by the excitement it causes, stimulating the ovaries to a more rapid maturation of their products, rendering them earlier adapted for separation; but it is not the efficient cause of this."—p. 48. An opinion in which M. Raciborski entirely agrees.

Though we have already extended this notice to such a length, there are several important points in the work of M. Raciborski, particularly, which well deserve attention, and to which we will still briefly allude. M. R., designing to ascertain whether the coincidence of conception, occurring at the cessation of the menstrual period, was real, and, if so, to what extent, has collected some fifteen cases of women who were confined at the *Clinique d'Accouchement de la Faculté*, of Paris, and who, being unmarried and domestics, were only able to have rare intercourse with their gallants, which, occurring chiefly on *fete* days, or other special occasions, was easily recollected; among these, who alone among those questioned, could give an accurate account of their sexual connections, "not one became pregnant at a time very distant from the period destined for the *ponte* of the ovule which had reached maturity."—p. 478. In a subsequent case, he ascertained that pregnancy followed a single coïtus which took place ten days after the suppression of the menses, in consequence of fright, at the second day of their flow.

The last chapter but one of M. Raciborski's work relates to superfœtation, considered in both its aspects, the first embracing those cases of twins, for example, when one is white and the other black, (upon which M. R. remarks, "that such superfœtation is very possible, and that he does not consider that, because twins are both of the same colour, the mother is necessarily virtuous,) and the second, those cases where a child, bearing all the attributes of a fœtus at term, is born from two to five months after the birth of a first child, which appeared to be born also at term"—cases which may give rise to important questions in a medico-legal sense.

The fact that such cases do exist cannot be denied; but, as M. R. says, the true question is, at what time were these two children conceived? Was it at the same time, or with an interval between them? MM. Orfila and Devergie, while very cautiously admitting the possibility of superfœtation, advise a physician, consulted in such a case, to declare that it is very difficult to decide about them. M. Velpeau admits their possible occurrence in three cases. 1st. In extra-uterine pregnancy; 2d. When commerce with two men has been had the same day, or within a short interval; 3d. In cases of double uterus—the difficulty in the way being the impossibility of the semen reaching the ovum. But M. Raciborski thinks, that superfœtation, properly so called, is absolutely impossible, because "it would directly attack the principle which presides over the generation of all beings, in consequence of which, everywhere and always, the *ponte* precedes the fecundation of the ovum, and the maturity of the ova precedes the *ponte*.***We may conclude, he continues, 1stly, that superfœtation can only occur in exceptional cases, where more than one ovum has arrived at maturity at the same time. 2dly. That the conception of fœtuses born successively at longer or shorter intervals, dates always from the same epoch, the fecundation of the ova being possible only at very short intervals one from the other. 3dly. That whatever point the fœtus occupies, or whether the uterus is or is not divided into two cavities, a new fecundation is impossible so long as the fruit of the first has not reached the term of its development, or until it ceases to live and to act the part of a foreign body. 4thly. That the cases hitherto reported in support of the possibility of superfœtation, and of which two examples have been given, were evidently merely double pregnancies, in which the second child had suffered for some time a suspension of development without ceasing to live."—p. 501.

The concluding chapter contains a farther dissertation on *corpora lutea*, of which the nature and the circumstances of occurrence have already been sufficiently noticed, and we are thus brought to the conclusion of our notice. Whether or not we have succeeded in fully developing the novel and striking doctrines which are brought forward in the works under consideration, we are confident that we have presented them sufficiently distinctly to show their importance, and to awaken attention to them, which are the objects at which we have aimed.

C. R. K.

ART. XI.—*Interment in Towns. A Supplementary Report on the results of a special inquiry into the practice of Interment in Towns. Made at the request of Her Majesty's principal Secretary of State, for the Home Department.* By EDWIN CHADWICK. Presented to both Houses of Parliament, by command of Her Majesty. London, 1843: 8vo. pp. 279.

THE above is the title and description of a book which has recently emanated from the highest authorities in England, upon a subject of great and growing interest in Great Britain, and in some parts of the continent.

The burial of the dead has hitherto been a subject of affectionate responsibility and social care. It has been left mainly to the church to determine the places where the body should be deposited after death ; and the same authority has established the customs and regulated the ceremonies ; but where religious bodies or societies have not done this, municipal authorities have stepped in to supply the deficiency.

To all those who were interested through affection, or responsible through ecclesiastical or civil authority, or social compact, for the decent and proper burial of the dead, there was nothing to fear after they had provided a suitable resting-place for the remains of the deceased; and when these were deposited where they could sleep in peace, the responsibility of the living was ended, unless, perhaps, they might desire to ornament the grave with the flower or the evergreen, and add a tombstone to commemorate the spot of burial. No bad consequences were apprehended from this, whether it were well or ill done. Even though the dead were accumulated so as to form one great mass of putrefaction, one grand focus of putrid emanations, in the very midst of the busy haunts of life, nothing for good or evil to the survivors was expected or thought possible. It was a question of taste, affection or economy; but not of health or value of life to the living.

The House of Commons, through a committee, made extensive inquiries into the effect of decomposition of animal matter, upon the health of the living, and also into the state of the churchyards in London. Mr. Chadwick has pursued the same subject still farther, and inquired into all the funeral ceremonies, customs and expenses; the manner of caring for the body between the time of the decease and the burial; and, finally, into the effects of all these customs upon the moral, social, physical and pecuniary conditions of the people.

For this purpose, our author has examined physicians, surgeons, undertakers, grave-diggers, sextons, public officers and the residents of the vicinity of these burial grounds. The results of all these investigations, and his own opinions and inferences, are minutely detailed in the volume before us, and published for the consideration of the British Government and nation.

Funeral customs are gradual in their growth, and exceedingly tenacious in their hold upon communities. Some began with the people, others have crept so slowly and imperceptibly into existence, that none can tell when they began, or took any step in their progress. These customs differ in their details, yet they are substantially the same in their influence upon health, whether in dense cities or among a sparsely scattered population.

There is a natural desire to retain the remains of deceased friends among those who loved them in life, as long as putrefaction does not appear, and then to deposit them in the ground in the midst of the haunts of the living. By a strange inconsistency, man will grasp his acres and his lands to an indefinite extent, for his own enjoyment in life, or to leave them to his living children; yet he will allow to himself, when dead, and to his deceased fathers and offspring, the smallest space of earth that the human frame can be contained in. And not content with narrowing down this territory to his personal length and breadth. Often in cities, where land is dear, more than one, even, in some cases, as many as twenty are put into one grave, in order that the superficial space of earth may be used as economically as possible. Even the niggardly use of the grave-yards is sometimes extended beyond this; for these many tenants of the same narrow house are not suffered to remain any longer than until decomposition has taken place; then their graves are re-opened, their undecayed bones and coffins are removed, and another generation has a similar and a short lease of the tenement given upon the same conditions, that they must quit under the same circumstances.

Both taste and public security are now operating to produce a change in the method and places of burial. New and ample cemeteries are provided out of the busy crowds of cities, in the stillness of the country, amid the beauties of natural scenery, where man may go to his long home and sleep undisturbed forever.

It has been, and is now questioned, by some, whose opinions we ordinarily value, whether any evil could arise from the burial of the dead within the dense population of cities; whether the emanations from putrefying flesh could reach the living, and produce disease in their bodies. This question seems to us to be clearly settled, by the abundant evidence in the volume now before us, of the derangements, diseases and weaknesses caused by the gaseous and liquid products of decomposing human bodies.

The purpose of Mr. Chadwick's book is to show:

> "That the emanations from human remains are of a nature to produce fatal disease, and to depress the general health of whosoever is exposed to them; and that interments, in the vaults of churches or in graveyards, surrounded by inhabited houses, contribute to the mass of atmospheric and other impurities, by which the general health and average duration of life of the inhabitants are diminished."—p. 197.

In pursuance of this investigation, Mr. Chadwick had every facility offered him. How he availed himself of his means is best told, in his own words.

> "I have consulted ministers of religion, who are called upon to perform funeral rites in the poorer districts. I have made inquiries of persons of the labouring classes, and of secretaries and officers of benefit societies and burial clubs, in the metropolis and in several provincial towns in the United Kingdom, on the practice of interments in relation to those classes, and on the alterations and improvements that would be most in accordance with their feelings. I have questioned persons following the office of undertaker, and more especially those who are engaged in the interment of the dead of the labouring classes, on the improvements which they deem practicable in the modes of performing that service: I have consulted foreigners resident in the metropolis, on the various modes of interment in their own countries. I have examined the chief administrative regulations thereon in Germany, France, and in the United States: and I have consulted several eminent physiologists as to the effects produced on the health of the living, by emanations from human remains in a state of decomposition."—pp. 1 and 2.

The Report of the Select Committee of the House of Commons, on improvement of the health of towns, furnished abundant evidence upon the condition of the London churchyards, where the dead are congregated in such dense masses as we had no previous conception of.

> "The plan on which the grave was opened, was quite in accordance with that generally observed and adopted throughout London; that is, the opening of what is called a public grave, thirty feet deep perhaps: the first corpse interred was succeeded by another, and up to sixteen or eighteen, and all the openings between the coffin boards were filled with the smaller coffins of children. When this grave was crammed as full as it could be, so that the topmost coffin was within two feet of the surface, that was banked up, and that piece of ground was considered as occupied."*

> "In the metropolis, on spaces of ground which do not exceed 203 acres, closely surrounded by the abodes of the living, layer upon layer, each consisting of a population numerically equivalent to a large army of 20,000 adults and nearly 30,000 youths and children, is every year imperfectly interred. Within the period of the existence of the present generation, upwards of a million of dead must have been interred in those same spaces." Chadwick, p. 27.

In the Liverpool cemetery, the poor are buried more closely than even in London; one sexton testifies, that "thirty-four, big and little," are enclosed in one grave.

The burial-grounds of London are public and private. Most of the former belong to the several churches, and the whole of these, within the diocese, includes 218$\frac{1}{10}$ acres. Several belong to private companies, of which, eight occupy 260 acres. Others belong to individuals, who sell the right of burial and of occupancy, or rather, they lease the right of occupancy for the time required for the body to decay, after which the tenant is to vacate the premises, which are to be leased to another on the same conditions.

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* Parliamentary Report.

All of these burial-grounds receive 44,355 bodies each year. These are buried in different proportions per acre. Some acres receive as many as 3073, as in some of the parochial churchyards. Others receive as few as five in the same space, as in some of the burial-grounds not described as belonging to any religious denomination. Some of the private grounds receive 2300 a-year, and these are often filled ten deep in one grave, so that it is calculated that every acre will, when filled, contain not less than 11,000 bodies of the dead.

The effect of such a condensed mass of putrefying flesh must be bad upon the health and comfort of the living. The products of decomposition must find vent, and extend themselves to the neighbouring soil or atmosphere. The living grant the adult dead only about fifteen cubic feet of space—and within this narrow bound they may enclose the flesh —but no power, yet applied to burial, can confine the products of decomposition within that limit, or, perhaps, within a thousand times that space.

> "During putrefaction, the parts become soft and flabby: they change in colour, exhale a nauseous and disgusting odour, diminish considerably in weight and afford several new products, some of which escape in a gaseous form, others run off in a liquid state, and others are contained in a fatty or earthy residuum."*

The principal elements of animal matter are carbon, hydrogen, oxygen and nitrogen: these are, in life, combined together, with other elements in various proportions, and form flesh of various kinds. So long as the vital principle holds them together, they remain in this solid or liquid form; but as soon as this ceases to govern them, they separate one from another, and are evolved in their pure elementary state, or they form new combinations one with another, and escape. The principal products of this putrefaction are water, ammonia, carburetted hydrogen, sulphuretted hydrogen and carbonic acid gas. These gases are from 800 to 1400 times lighter than the flesh in which they before existed, and, consequently, they must occupy that proportion of space in their new condition. They cannot, then, be confined within the limits of the coffin or grave, but they must have an outlet and spread themselves far abroad.

The expansive force of these gases is very great, sufficient to burst coffins, and make their way through the porous earth to the surface, or to either side. Even in soils of clay, they will force an opening, and rush outwards through the fissures. Lead coffins, or those made of wood, however strong, are unable to resist this expansion.

> "Some years since a vault was opened in the churchyard (Stepney), and shortly after one of the coffins contained therein burst with so loud a report, that hundreds flocked to the place to ascertain the cause. So intense was the poisonous nature of the effluvia arising therefrom, that a great many were attacked with sickness and fainting."—p. 15.
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> "I have known," says one undertaker, "coffins to explode like the report of

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* Webster's Chemistry.

a gun. I was once called up at midnight by the people, who were in great alarm, and who stated, that the coffin had burst with a report, like the report of a cannon."—p. 15.

The extent to which these gases pass through the earth, must depend upon the looseness of its texture and upon the quantity of putrefying flesh gathered together. The lighter products tend to rise upward, and no depth of burial, that has yet been tried, has prevented their reaching the surface and mingling with the atmosphere.

Wherever these products of decomposition go, they mingle with the fluids and gases which they meet. They incorporate themselves with and taint the waters that filter through the soil, and the springs that run in the earth, and they mix with and corrupt the air above the surface. The wells and the fountains become thus contaminated with the noxious qualities of these putrefactive compounds. This is what we should believe *à priori*. The very simplest principles of chemistry and natural philosophy would teach it; and it is corroborated by the evidence of undertakers, sextons, grave-diggers and other churchyard workmen, and, also, of the residents of the vicinity of these foci of putrid emanations.

It cannot be doubted, that these emanations of the dead are injurious to health and destructive to life. Pure and unmixed air is the only healthy respirable gas. All adulterations impair its power of decarbonizing the blood. This is the case if the adulterating material be merely a diluent. But if it be noxious, there must follow the double consequence of impairing its vivifying power and of producing positive injury. The respiration of sulphuretted hydrogen, carburetted hydrogen, ammonia, or of carbonic acid gas, is acknowledged to be injurious, even in the small and manageable degree to which one is exposed in a chemical laboratory.

These gases affect the living body, not only through the atmosphere as a respirable body, by interfering with pulmonary functions, but there is another and more general effect of these gases upon the body through their contact with the cutaneous surface. We think we do not make too bold use of language, if we speak of the contagion of death as well as the contagion of disease. Chemically we produce fermentation in certain vegetable matters or compounds, by the presence of or mixture with other matters or compounds that have already gone through that fermenting process. Pathologically, the contagious or infectious diseases—as small-pox, scarlatina, typhus, are generated by the presence of or contact with the emanations from others, who are thus diseased. So by a similar law, the emanations, the exudations, or effluvia of putrefying flesh may produce putrefaction, or some organic lesion, or some functional disturbance—it may produce some disease—in the living and healthy body.

"Dr. Lyon Playfair states: 'Both decaying and putrefying matters are capable of communicating their own state of putrefaction or of decay to any organic matter with which they come in contact. To take the simplest case, a piece of decayed wood, a decaying orange, or a piece of tainted flesh is capable of causing decay or putrefaction in another piece of wood, orange or flesh. In a similar manner, the decaying gases evolved from sewers, occasion the putrescence of meat or vegetables hung in the vicinity of the place from which they escape. But this communication of putrefaction is not confined to dead matter. When tainted meat or putrescent blood-puddings are taken as food, their state of putrefaction is frequently communicated to the bodies of the persons who have used them as food. A disease analogous to rot ensues, and generally terminates fatally.'

"The decay or putrefaction communicated by putrid gases or by decaying matters does not always assume one form, but varies according to the organs to which their peculiar state is imparted. If communicated to the blood, it might possibly happen that fever may arise: if to the intestines, dysentery or diarrhœa might result: and, I think, it might be a question worthy of consideration, whether consumption may not arise from such exposure. Certainly it seems to do so among cattle. The men who are employed in cleansing out drains, are very liable to attacks of dysentery and diarrhœa.

"The effects produced by decaying emanations will vary according to the state of putrefaction or decay, in which these emanations are, as well as according to their intensity and concentration."—p. 21.

When the tyrant of antiquity bound the living to the dead for the purpose of torture, his object was not only to offend and disgust the senses, but to convey the death of the corpse to the living companion. We, in modern time, look upon this as the work of the most degrading tyranny, which could have existed only in a most barbarous age; or, possibly, the tale was the invention of a morbid imagination, rather than the record of a faithful historian. But it is no imaginary circumstance, that binds the living to the dead in our day. The depositories of the dead are now in the midst of the dwellings of the living. In all of these, the human flesh is gathered and left to rot. In some, as we have already seen, the bodies are piled, layer upon layer, from thirty feet below to within two feet of the surface of the earth; and this solid mass of corruption sends forth its nauseating and deadly compounds, to penetrate through the ground and mix with the atmosphere, so that the dwellers and labourers in the vicinity breathe these noxious emanations in their air; they drink them in their water; they have them in contact with the surface of their bodies.

The effluvium from some cemeteries is so disagreeable as to be the subject of complaint from those who lived near to them. It is stated by a military officer, "that when his men occupied as a barrack, a building, which opened over a crowded burial-ground in Liverpool, the smell from the ground was exceedingly offensive, and that he and his men suffered from the dysentery." The churchyard of St. Innocens, in Paris, was so disagreeable and unwholesome, that the authorities determined to remove all the dead from it to another place. The people, who lived around it, had, for years, complained of the stench that arose from it. In 1755, the inspector, who was entrusted with the inquiry into the state of this ground, saw the vapour rising from a large common grave. One grave-digger testified, that he had seen the surface of the earth of the burial-grounds of St. Clements and Danes, in London, reek and smoke, on a summer morning, with the gas exhaled from the putrefying flesh below. When the old graveyard of St. Clements was turned up, "the stench was abominable," although it had not been used as a burial-place for forty years. The same is observed in some churches, where cemeteries are below the floor. A woman, who was accustomed to shake and cleanse the matting of a church, under which the dead were buried, said, "that the dust and effluvia which arose always had a peculiarly fœtid and offensive odour, very unlike the dust which collects in private houses; and that it invariably made her ill for at least a day afterwards.

These putrescent emanations floating in the atmosphere, not only offend our olfactories, but they affect meats with their own corruption and bring on putrefaction in these, if they touch them. Fresh meat, when hung near the ground in the vicinity of St. Margaret's churchyard, was tainted. Meat sooner becomes putrid near the churchyard of St. Innocens than elsewhere.

The gaseous and fluid emanations penetrate the cellars and infect the air in them, if situated near the cemeteries. The atmosphere in these *becomes* loaded with a mephitic vapour, and the walls are often covered with a moisture, which is poisonous to be touched. One workman, who was employed in such a cellar, put his hand upon the wet wall, and did not wash it, as he was advised to do. In three days, the whole arm was numb, the hand and lower arm became painful and swollen, blisters appeared upon the skin, and the epidermis came off.

> "In 1779, in a cemetery which yearly received from 2000 to 3000 corpses, they dug an immense common grave. This was fifty feet deep, and made to receive 1500 to 1600 bodies. But in February, 1780, the whole of the cellars, in the street, were no longer fit for use. Candles were extinguished, by the air, in these cellars; and those who approached the aperture were immediately seized with alarming attacks."—p. 5.*

Common-sewers become more offensive when they pass through burial-grounds. The exudations from the coffins penetrate even through the brick walls of these drains; the cement is no protection. Evidence upon this point, as well as upon others, is given in Mr. Chadwick's Report. One surveyor of sewers in the Holborn and Finsbury divisions, said he could always perceive a difference between the effluvia from sewers which had passed through or under a cemetery, and that which came from others.

> "Professor Brande states, 'that he has frequently found the well-waters of London contaminated by organic matters and ammoniacal salts.' He thinks, that the *soil* of some of the London churchyards is surcharged with the products of decomposition—that all the waters, that fall upon the surface and filter through the ground, must carry some of these noxious matters with them to the springs and wells in the neighbourhood. He mentions instances to substantiate this opinion. Many wells in Leicester, and other places, were given up, on account of the stench which the waters received from the dead. Mr. Port states, 'that he had a pump, the water of the well attached to which had been very good, and used for domestic purposes; but that since a burying-ground was formed above his house, the water in his well had become of so disagreeable a flavour as to prevent its being used as heretofore.' "—p. 25.

Sir James Macgregor states, that at Ciudad Rodrigo, in Spain, 20,000 bodies were buried in one field, within a period of two or three months. Soon afterwards, the emanations from the surface were so offensive, and the wells so polluted, that the troops were attacked with "malignant and low fevers and dysenteries, or fevers frequently putting on a dysenteric character." Dr. Reid says, that the surface of a glass of water, given to him at a hotel, was covered with a peculiar film, which, he was convinced, "arose from the coffins in a churchyard immediately adjoining the well where the water was drawn."

After many and satisfactory inquiries upon this subject in France, a law was passed prohibiting the opening of wells within 327 feet, (100 metres,) of any place of burial. This distance is now found to be insufficient for deep wells; for some have been tainted twice as far from the graves, and, in some of the German states, wells are forbidden to be dug within 981 feet, (300 metres.)

The carbonic acid gas being heavier than air, runs like water to the wells, caverns, and hollows in the vicinity. The grave-diggers state, that, when they dig graves by the side of others already filled, they perceive this gas, which flows from the decaying bodies in the contiguous graves. This renders it dangerous for them to work in the deep pit. Painful and even fatal accidents have sometimes happened from incautious continuance in these. Some churchyards, by long use and the accumulation of bodies, become raised several feet above their original level, and are therefore higher than the floor of the church. The bottom of this building is then a hollow, into which the gas flows by mere gravitation, and some bad consequences have followed from this condition of things to the worshippers.

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* Quoted from a Report of Dr. Reiche, of Stuttgart, *On the Influence of Putrefactive Emanations on the Health of Man.*

It will not be doubted from the foregoing testimony and facts, that the emanations from the decaying bodies of the dead are abundant and penetrating, perceptibly offensive and deleterious. We have not space to quote more than a slight portion of the evidence adduced to establish these principles; but, for further information, we refer our readers to Mr. Chadwick's book itself, to the Report of the Committee of Commons on the Improvement of the Health of Towns, and to an able article on the subject in the Westminster Review.

That these emanations are prejudicial to the health and strength of the living will not be questioned. But in regard to the power of doing harm and the extent of injury actually caused, there is a difference, and perhaps a very wide difference, of opinion, among even medical men. That dead matter, in any of its stages of putrefaction, is noxious to life none dispute. There are few physicians that have not seen, and many have felt the dreadful effects of a slight wound upon a finger, received while dissecting a putrescent subject, or while conducting an autopsy of a person that died of a malignant disease. Within a few months, and among our professional neighbours, two have died, and a third has been dangerously affected from wounds which they received while engaged in these post-mortem examinations. Mr. Chadwick has quoted similar instances from Dr. Southwood Smith: but we need not give these here, for unhappily all of us have seen too many such cases to want further proof of the noxiousness of putrescent human flesh. These disturbances arise not from human flesh only, but from any other in a state of decay.

> "A lady in the country received a basket of fish from London, which had become putrid on the road. On opening the basket she pricked her finger, and she slightly handled the fish. On the evening of this day inflammation came on in the finger, followed by such severe constitutional symptoms as to endanger life, and it was six months before the effects of this wound subsided and her health was restored."—p. 18.

A cook-maid suffered similar consequences from a wound which she received while boning a stale hare.

In these cases the morbific matter was applied directly to the denuded absorbent surface as vaccine matter is applied beneath the cuticle. But it is not necessary for the absorption of the poison, that the skin should be broken and the flesh exposed. This mephitic gas is diffused through the atmosphere in almost infinitely minute particles. In this state it is inspired and brought into contact with the extensive absorbent surface of the air-cells of the lung.

In this way specific diseases are often communicated through the medium of an infected atmosphere. Contagion takes place without contact. Small-pox is produced with as great certainty through the atmosphere and our lungs as when tangible and visible particles are taken from the patient and applied to the skin of the susceptible.

> "Dr. Williams relates the case of four students infected with the small-pox by the dead body of a man, who had died of this disease, that was brought into the theatre for dissection. One of them saw the body, but did not touch it; another was near it but did not touch it; a third, accustomed to make sketches from dead bodies, saw the subject but did not touch it: the fourth alone touched it with both his hands, yet all four caught the disease."—p. 14.

Sir Benjamin Brodie corroborates the above by similar examples.

The effect of this pulmonary absorption is, in some known cases, astonishingly rapid and powerful. Life is destroyed by a single inspiration of the concentrated prussic acid almost as effectually and suddenly as when one is struck down with lightning. "Dr. Copland stated, that a Dissenting clergyman under his care, informed him that he went, on the Sunday previous, to officiate at the chapel, and, on going up the steps, he felt a rush of foul air issuing from the grated openings at each side of the stairway. The effect upon him was instantaneous; it produced a feeling of sinking with nausea and great debility." These feelings increased so that he soon left the chapel, took to his bed, and died in eight days. His wife took the same disease, exhibited the same symptoms, and died in the same period.

Other instances are given of the sudden attack of sickness and disease following a similar exposure to this mephitic gas. When a coffin burst and discharged its gases, "so intense was the poisonous nature of the effluvia that a great many were attacked with sudden sickness and fainting." In another case, "instant nausea and vomiting" are said to have been produced in the by-standers.

> Dr. Arnott states, that "during the Burmese war, two soldiers, in digging a grave for a comrade, accidentally opened a coffin, previously there, and inhaled putrid effluvium, which caused the death of both within eighty hours."
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> "In the Hornet corvette, while in the West Indies, several persons died of fever, with black vomit, in consequence of inhaling the putrid effluvium from a vessel of preserved salmon."*

Some cases of grave-diggers dying instantaneously from inhaling the concentrated miasmata from coffins are reported. In the Lancet is the case of a man who, while digging a grave in the churchyard of St. Margaret, Westminster, was suddenly seized with faintness and excessive chilliness, giddiness, and inability to move his limbs. He was seen to fall, was removed home, and died within a few days. His medical attendant was seized with precisely the same symptoms, and died in four days after the grave-digger. His servant was attacked the day after the death of her master, and died in a few days.†

More evidence of this kind might be adduced, but here is enough to prove the danger of inhaling these gases in their concentrated state. When they are spread in the atmosphere and diluted, they are less noxious; but, even in this condition, they are not entirely harmless. They are sometimes carried, in their concentrated state, by the winds to houses of people beyond the churchyards, and produce evil consequences similar to those already described. One family always received the graveyard fœtid odour whenever the wind blew from that quarter, and the members of the household were made sick on these occasions.

There is a common notion that deep burial is a sufficient protection for the living against the influence of the miasmatic products of decomposition. Therefore the municipal laws of many places direct the graves to be dug to such a depth as is supposed to be sufficient to prevent the escape of the gases. Five feet are generally considered to be a safe depth. Some are buried deeper; and the upper layers of bodies, in some churchyards, are not half this depth below the surface of the ground. But these gases must have an outlet for escape in some direction. Horizontally or vertically they must spread far and wide. Some have attempted to prevent their rising by very deep burial, and placing a covering of twenty feet of earth above the bodies, but without success. Even from this depth the poisonous exhalations have arisen and been perceived on the surface.

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* Sanitary Inquiry, Scotland, p. 38.

† London Lancet, June 13, 1840.

The more porous the soil the more ready and free is the escape of the gas upward and outward; but, if the surface be compact and trodden, or covered with pavement, the gas is diffused so much the farther to the right and the left, and reaches and poisons the wells and the springs so much the more extensively.

Neither is any length of burial a security against the presence or destructive power of these gases. In some tight coffins or vaults they may be retained for years, and even for ages. One undertaker bored a hole in a coffin that had been buried eight years; immediately a gas issued from it, which was so offensive and oppressive that he was nearly killed by it. He took some of it home in a vessel, and lost some of it in his house. The whole dwelling was filled with the stench, and he was made so sick by it that he was confined to his bed a week afterward. A similar instance happened from a coffin that had been buried about fifty years. When the revolutionary mob of Paris broke into the vaults where the kings had been buried, and opened the coffins for the sake of plunder, they were overpowered and sickened by the gas that issued from the coffin of Francis I., who died in 1557, and had therefore been buried almost two and a half centuries.

The plague had formerly raged in Eyam, but had ceased for ninety-one years. One of the graves, in which was deposited the body of a person that had died of this disorder nearly a century previous, was opened, and sent forth an effluvium that reproduced this epidemic, which again prevailed, and destroyed many in the town.

The earth is supposed to act, somehow or other, chemically or mechanically, as a purifier of the fluids that pass through it, or as a destroyer of the noxious qualities of whatever is deposited in it, therefore, burial is considered by many as an effectual security from all harm, that might arise from any putrefying matter. There is, certainly, a fallacy in these opinions. The mephitic products of animal decomposition must continue in their gaseous and liquid state, as they are sent forth from the rotting flesh, until they are decomposed and resolved into their simple and innocuous elements, or until they are combined with other substances, and, with them, form innocent compounds. Unless one or the other of these things takes place, these deadly emanations must remain as noxious as when originally evolved. Some of these gases reach the atmosphere, and are there so diluted as to be imperceptible. Much, perhaps all, of the carbonic acid is absorbed by vegetation. The other products, which do not rise above the surface, must be mingled with the particles of the earth, or mixed and incorporated with the waters that run in its channels or trickle through its pores. Some of the earths may decompose or combine with a portion of these noxious emanations; but disintegrated rocks and alluvium, sand, gravel and clay, can have no such chemical affinity for these, nor power to neutralize their poisonous nature. As they first come from their putrid source, so they will continue, without change of qualities. They may change their place, but not their character. They move as the pressure of increasing matters, spreading from the focus of decomposition, forces them farther and farther outward, or as the currents of water carry them. The rain waters that come downward from the surface, and the spring waters that flow horizontally through these grounds, must carry these emanations along with them to their reservoirs, to the wells and to the springs.

If these grounds are not thus worked thoroughly and frequently, they become saturated, and remain charged with the noxious matters, for aught we know, forever. Some old burial-grounds, which have not been used for forty years, on being turned up, have given out the offensive effluvia of these products of decomposition. The soil had neither changed nor neutralized them. The earth was, and is, in almost all cases, merely a vehicle to hold them, or a passage way for their progress.

Although, in most cases, the presence of these gases is made known by their offensive odour, yet frequently they are not perceptible to the olfactory nerves; and are then only discerned by their effects upon the system. Some undertakers state that they have suffered nausea and faintness, while employed in their vocations; but, at the same time, they smelt nothing disagreeable. On the other hand, men have suffered severe impressions through the nerves of smell alone. But, generally, these emanations are harmless, if not perceptible to the nasal organs.

Through the atmosphere above, and the waters under the earth; through the various media of our bodies, the lungs, the nostrils, the stomach and the skin, it will not be doubted that the results of putrefying flesh are injurious to the living. These deleterious powers are manifested in various ways, and produce various symptoms in different persons, and at different times and places, being influenced by many preceding and coexisting circumstances. In some persons, they generate specific disease, a low, malignant and contagious fever: in others, they cause diarrhœa, dysentery or other intestinal disturbances. Headache and nausea sometimes follow exposure to them; and, in some cases, the specific disease, small-pox, &c., by which the dead had fallen, is produced by the gases that rise from putrefaction of the body.

The weak and sickly suffer more from this exposure than the stout and robust. Those who are predisposed to any derangement, are liable to have this return, when these emanations reach them. One family had returns of headaches and sore throats, to which they were predisposed, every time the wind blew the miasmata from a crowded churchyard, which was near by.

Those who are already sick are made worse. The Montfaucon is the receptacle of the dead horses of Paris. There the flesh of these animals is undergoing putrefaction, and is sending forth putrid effluvia to the surrounding region. The Hospital St. Louis is situated within reach of these miasmata, and whenever the wind drives from the receptacle towards that charity, it was observed "that the wounds and sores assumed a foul aspect." Hospital gangrene manifested itself there under the same circumstances, and "this malady is much more frequent in this hospital than in any other in Paris, although it is much the most airy and least crowded."

Generally, this miasm is so diluted in the air as not to produce specific disease, but a depression of life, a reduction of vital power, and a diminished ability to resist other attacks of disease, in those who live within its reach.

"The injurious effects of diluted emanations are constantly traceable, not in constitutional disturbance at any one time; they have their effect even on the strong, perceptible over a space of time, in a general depression of strength and a shortened period of existence."—p. 12.

The labourers in churchyards are often pale, and even wan. The same is said of the butchers of Bristol, whose life and work are in close and unventilated courts.

The evils consequent upon the burial of the dead among the living, are modified by many circumstances; they are diminished or increased; but, in a greater or less degree, they are inevitable in most cases. Whether the dead are rapidly gathered and heaped into one vast corrupting mass, perceptibly reeking with its mephitic effluvia, as in some of the churchyards of London; or whether they are deposited at long intervals, and at wide spaces one from another, as in most of our country burial-grounds, still decomposition must follow death, noxious gases and fluids must be evolved, and these must spread themselves through the ground or into the atmosphere, probably into both.

We, in America, at the present time, are in no great danger of suffering from this accumulation of the dead. Nothing like that which has been described as prevalent in some cities of England, can exist in our cities for ages, perhaps not for centuries. In the country towns of New England and, we believe, in other parts of the United States, there is but little or nothing to fear on this account. Their burial-grounds are sufficiently large, so that some space is left between the graves, and never, except, perhaps, in the instance of a mother and child, are the bodies deposited one over another in the same grave; and, when once closed, the grave is never re-opened for use; the original tenant is the sole and undisturbed occupant of his narrow home forever. It is rare that a family is so poor or so mean as not to desire a stone to mark the spot, where one of its members is buried, to tell the dates of his history; and, perhaps, to add to this a record of his virtues in life, and of his hopes in death. These monuments stand here, declaring to many succeeding generations, that the ashes of him, who first slept beneath, still sleep there unmolested. In the burial-ground of this town, Dorchester, Massachusetts, are the grave-stones of some who were buried there when the country was first settled; one is dated as far back as 1638, and no municipal authority would dare or wish to disturb it or the tenant beneath it.

In our cities there is more danger of over-accumulation of the dead among the living. In Boston are eight burial-grounds, some of which were opened and used two hundred years ago, and are now full and but rarely used. Besides these, there are cemeteries under seven of the churches, in which are two hundred and forty-six tombs. In the burial-grounds are nine hundred and twenty-seven tombs, besides the open space for graves. In some of the public grounds, three bodies are put in some of the graves, which are never re-opened. The practice now is to put the bodies of the poor into one large tomb, until it be full. Then this is closed and left undisturbed for twelve or fourteen years. In this time the flesh is decomposed, the bones only remain; then these tombs are opened and emptied; the coffins are burned and the bones are thrown into one vast charnel house, and there man finds a longer home, and finishes his work of decay.

The south ground contains two and one-fifth acres, and is the place of burial for most of the poor. Here is the city tomb just described. This is on moist land, not much above the level of high tides. The soil is of compact clay, and on the east side quite wet. It is, therefore, unfavourable for decomposition. The graves are dug with a space of about one foot between them at the sides, and room for a walk at the ends. But in the wet portions, they approach more nearly, inasmuch as the intervening wall of earth will not remain while the grave is open. Very many of the poor are buried at the Catholic cemetery, at south Boston; and many of the more favoured classes are buried at Mount Auburn Cemetery, four miles west of the city.

It is more than a matter of taste that rural cemeteries are now becoming common in the neighbourhood of cities, for the use of their population. These will remove from future generations some of the causes of sickness and death that have hitherto existed in the midst of the people.

Some of the German cities have adopted these, with a more careful regard to their effects upon the living than we have done. In these, the depth of the graves, the space between them, the single occupancy of each, are all determined and enforced, and thus they avoid many of the evil consequences which otherwise would attend the burial of their dead.

The location of a burial-ground, the nature of its soil, all the arrangement of the graves, and the ornamental embellishments, are of great importance to the health of the living, and should be determined accordingly.

It should be situated at least fifty rods from any habitation, and, of course, out of the dense population of cities or villages. It should be in loose, porous soil, to facilitate the gradual transmission of the gases outward, so that they be not accumulated. It should be on an elevated site, so that these gases should be diluted by the atmosphere and extensively dispersed, and on the leeward side of a town in respect to the prevailing wind, so that their effluvia be blown away from the people. It should not be on the upper part of a declivity, while families dwell below, for there the springs and drainage of the tainted graveyard would supply their wells and corrupt their waters. Nor should they be in deep dells, where the heavier gases would gather and lay in the cavity, to the danger of the labourers and funeral attendants.

"The progress of the decay of the body varies according to the nature of the soil in which it is buried, and the surrounding agencies. Clayey soil is antiseptic, and it retains the gases and excludes the external atmosphere." "Loomy, ferruginous and aluminous soils, moor earth and bog are unfavourable to decomposition; sandy, marly and calcareous soils are favourable to it." "Water, at a low temperature, retards decomposition." "The remains of the young decompose more rapidly than the old; females more than males; and the fat more than lean." And some diseases cause the body to decompose more rapidly after death than others.

There is a natural and a common desire that the bodies of dead friends should retain their form and their faces, the expression of life as long as possible; and, therefore, affection would select the soil the most unfavourable to decomposition. But the clay, which would retard this process, will, by its compact texture, prevent the gradual escape of the gases as they are evolved. Being thus retained, they acquire a concentrated power of destruction, and at last they burst their enclosure and force their way to the atmosphere, carrying with them a more deadly energy. At the same time, this compactness of soil prevents the motion of the exudations to any distance side-ways under ground, and, therefore, the wells and springs are not reached and tainted so extensively as in a looser earth.

The reverse is the case with the sandy or loamy soils; they permit the free passage of these exudations to any distance below the surface, and waters are corrupted though quite remote from the graveyard. But the air is less tainted, the gaseous products escape from the ground as fast as they are evolved from the putrefaction, and they mingle so gradually with the atmosphere, and become so diluted as to be less perceptible, and thus they pass off almost innocuously.

The ornamental decoration of a burial-ground is not merely to please the eye; it has an important effect upon the health of the neighbourhood. Trees, shrubs and flowers should be selected and arranged in reference to their influence over the escape of the gases, or to their power to absorb them. Trees of dense foliage, such as the horse-chestnut, the maple or the ash, prevent the access of the sun, which is necessary to facilitate the decomposition of the bodies. They interrupt the free circulation of the air, which would otherwise carry off the emanations as fast as they come to the surface. The leaves of vigorous and healthy vegetation will better absorb the carbonic acid gas above, and the roots will find nutriment by absorbing the exudations below the surface. This carbonic acid gas being heavier than air, naturally keeps near the ground; and it is absorbed by the leaves only under the direct influence of light. Tall trees with dense foliage are out of the reach of this gas, and can, therefore, absorb comparatively little of it; and their density would prevent the rays of the sun reaching the undergrowth and sward vegetations, and stimulating them to do this work of absorption. Therefore, such trees are improper ornaments for a churchyard, and dark forests are unsuitable places for the burial of the dead.

> "Mr. Loudon recommends, for planting in cemeteries, trees chiefly of the fastigiate growing kind, which neither cover a large space with their branches nor give too much shade when the sun shines, and which admit light and air to neutralize any mephitic effluvia. Of these, are the oriental arbor vitæ, the evergreen cypress, the Swedish and Irish juniper, &c. For the same reason, trees of narrow, conical forms, such as the red cedar, and various pines and firs, are desirable. In advantageously situated cemeteries, some of the larger trees, such as the cedar of Lebanon, the oriental plane, the purple beech, the dark yew and the flowering ash, mountain ash, sycamores, thorns, hollies, and some species of oak, such as the evergreen oak, the Italian oak, with flowering trees and shrubs, would find places in due proportion."—p. 132.

The depth of the grave is worthy of careful consideration. Very deep burial prevents the access of air, and thereby delays the process of decomposition. It also causes the exudations to be extended more widely through the earth, and is injurious to the springs at a greater distance. "At Frankfort, the average depth prescribed for graves is five feet seven inches; at Munich, six feet seven inches; in France, from four feet ten inches to six feet; in Austria, six feet two inches, if lime be used."—p. 128.

In some places, the depths vary according to the age of the deceased, as at Stuttgart; for bodies of persons under eight years, three feet nine inches; eight to ten years, four feet seven inches; ten to fourteen years, five feet seven inches; and adults, six feet seven inches. At Boston, the depth is from four feet for children, to eight feet for the lowest layer of adults.

The space allowed for the graves varies in different places. Dr. Reicke calculates that each adult should be allowed fifty-four square feet, each youth twenty-seven feet, and each infant twenty-two feet, and only one in each grave. The directors and operatives of the London churchyards seem to allow the narrowest space, into which the bodies of the dead can be placed, and to have applied the art of packing as rigidly as a stevedore stows his ship with freight. In our country burial-grounds, about three feet in width are allowed for adults, and a space sufficient for a walk between the ends of the graves.

Beside these evils attendant upon this crowded burial in the metropolis and other large cities of Great Britain, there are many others connected with the management of the dead, before the body is deposited in the ground. These Mr. Chadwick has faithfully investigated and reported at length, in the present volume. We have not space, nor is it necessary for our purpose, to go into the details of these, as we have done in regard to the burials. But a slight notice of some of them, and a more extended notice of others, may not be uninteresting to our readers.

There is a strong and prevalent disposition, among the poor of England, to retain the bodies of their deceased friends as long as possible in their houses. Sometimes this arises from affection, at others from want of means to meet the expenses of the funeral; and, at others, from a fear of burying the living. Beside these motives for delay, there is a general preference, especially among the poor, to have the funeral on the Sabbath. If the death happen early in the week, these people retain the corpse until the succeeding Sunday; if it take place in the middle or last of the week, the second Sabbath afterwards is usually the day appointed for the burial.

The domestic condition of the labouring classes is described minutely in Mr. Chadwick's former report,* and also in the local reports upon the sanatary condition of England and Wales, and Scotland. Most of these families have but one room, and this often of very small dimensions, and imperfectly ventilated and lighted. In this single room are the father, the mother and the children. In this small space they eat and drink, they cook and work. Here the females sit and labour, and the children play during the day; and the whole, male and female, old and young, sleep during the night. Here the children are born, and the members of the family are sick and die; and here, in the midst of all the household labours, the preparation for and the support of life, the corpse is retained, and, in many cases, even until putrefaction takes place.

The crowded state of these dwellings is beyond our experience. From an examination of the inner ward of St. George's, Hanover Square, one of the districts of London, "it appeared that 1465 families of labouring classes had, for their residence, 2175 rooms and 2510 beds." Of these, 929 families had each one room, 408 had two rooms, 95 three rooms, 17 four rooms, 8 five rooms; a few were not ascertained.† "But of 5945 persons, 835 were found to be ill, and yet the season was not unhealthy. Among these, not one family in eleven had a third room to place a corpse in; not half had a second room for this purpose. Some districts were in a worse condition than this. Among the poor of the borough of Mary-le-bone, not one family in a hundred had a third room. In many cases more than one family occupied a single room."‡ In the parishes of St. John and St. Margaret, out of 5183 families, 3852 inhabited single rooms. The size of these rooms ranges from eight feet by ten feet, to eighteen feet by twenty-four feet, and more than three-fourths of them, 4094 were fourteen feet long by twelve feet wide and less.*

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* General Report on the sanatary condition of the labouring classes of Great Britain, from the poor laws commissioners. Presented to both Houses of Parliament, by command of Her Majesty. 1842.

† Report, p. 31.

‡ Ibid., p. 32.

In Bristol, 556 families occupy each a part of a room; 2244, each a single room; 1439, each two rooms, and 1752 three or more.†

> In Tranent, "the families of most of the labouring people are crowded, in consequence of the smallness of the apartments. Where there are many children, it is common for ten to twelve people to inhabit one apartment, and for four children to lie in one bed, both in health and sickness."‡
>
> "In one of these rooms I have witnessed a father, mother, three grown-up sons, a daughter, and a child lying at the same time with typhus fever."§

The General Sanatary Report, from which we quote these paragraphs, and also the local reports upon the sanatary condition of the labouring classes of the towns of England, Wales and Scotland, in full octavo volumes, are filled with similar accounts of the crowded condition of the houses of the poor, of both the cities and the country of Great Britain.

Among these classes, the provisions for the residence of the living as well as for the abode of the dead, have not been augmented with the increase of tenants. The population of the metropolis, from 1831 to 1841, had increased 16 per cent., while the houses had increased only 15 per cent. This deficiency, we doubt not, fell mostly upon the poor. Throughout England and Wales, the difference has been in favour of accommodation, being an increase of population 14.5 per cent., of dwellings 18.4 per cent.‖

It is in the dwellings thus crowded, that the corpses are kept for a period so long as to be offensive to the senses, and dangerous to the health of the inhabitants. The evidence on this point is ample; we give a few specimens from Mr. Chadwick. Mr. Leonard, surgeon and medical officer of St. Martin's-in-the-Fields, caused a patient to be removed from her room, and says:

> "I could not remain in it two minutes; the horrible stench arose from a corpse, which had died twelve days before, and the coffin stood across the foot of the bed, within eighteen inches of it. This was in a small room not above ten feet by twelve feet square, and a fire always in it, being (as in most cases of a like kind) the only one for sleeping, living and cooking in." p. 33.

A woman, with her child ill of a fever, was in her father's room, only ten feet square. Soon the grandmother and grandfather were taken sick. There was but one bedstead in the room. They would not be removed. The grandmother died, but was not carried away, until the husband became delirious. He was taken to the hospital and died. Soon afterwards two of his children died also, and out of a family of six, inhabiting this small space, five died of a fever.

Other instances are given of fever following successively through most of the members of a family, and the dead bodies being retained amidst the sufferings of the sick, and the living operations of the well.

In one room, a man, wife and six children lived. The mother died of fever and was not removed for five days: the eldest daughter died in the same way, and was retained three days. Three more children died of the same disease; the fifth and sixth had similar attacks, but recovered.

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* Journal of London Statistical Society, vol. iii., p. 22.

† Ibid. vol. ii., p. 371.

‡ General Sanatary Report, p. 123.

§ Ibid. p. 124.

‖ Report upon Census of England and Wales, for 1841.

Some corpses are kept three weeks before burial, and even after decomposition has begun. One undertaker says:

> "In cases of rapid decomposition of persons dying in full habit, there is much liquid; and the coffin is tapped to let it out. I have known them to keep the corpse after the coffin had been tapped twice, which has, of course, produced a disagreeable effluvium. This liquid generates animal life very rapidly; and within six hours after a coffin has been tapped, if the liquid escapes, maggots or a sort of animalculæ are seen crawling about. I have frequently seen them crawling about the floor of a room inhabited by the labouring classes." p. 38, 39.

Whatever may be the disease, however malignant or contagious, the same recklessness of the health of the survivors is shown, and thus the contagion is kept active in the family, and spread to the neighbourhood.

A surgeon was called to a family in Stepney, where five persons lived in a room nine feet square and six feet high, scantily ventilated and lighted. One child had the small-pox and died, but was retained in the room. Two others were soon attacked, and also a child of another family who visited the corpse. The stench from the living and the dead was so oppressive, as to create severe headache and nausea in the medical attendant.

Some of these families, even in these narrow rooms, take in other lodgers; and when death takes place, still the household and the lodgers gather there to eat and to sleep. One witness says, "I have seen a child die of the small-pox and another dying, and the house full of lodgers eating their meals." p. 41.

The presence of these dead bodies among the living, seems to be as injurious to the moral as well as the physical nature. The watching of the family and friends is often a scene of carousal and intemperance, rather than of solemn and quiet mourning. Mr. Liddle, the medical officer of Whitechapel district, says he has found an indifference among the people toward the remains of the dead; usually "the family is found eating or drinking, or pursuing their usual callings, and the children playing."

When to these influences of the dead upon the living, both before and after interment, we add the conditions of the houses of the poor, their want of room, of light and air, the filth of the streets, lanes, courts and wynds, which have been brought to the public eye through the several sanatary inquiries and reports,* it will not appear strange that epidemic and contagious diseases should prevail among these classes, that sickness in general should be more rife, men more feeble, death more frequent, and the average longevity less among those who are thus situated and exposed, whose dwellings and domestic habits have been thus described, than among those who are better able to protect themselves from malaria and contagion.

In London, in the families of the gentry and professional persons, twenty-four per cent. of all the deaths were of children under ten years of age; while, in the families of the labourers, more than fifty per cent. died under that tender age. In the former class, less than ten per cent. died of epidemic, endemic and contagious diseases, while in the latter, more than twenty per cent. died of these causes. The average longevity of the first class was forty-four years; of the latter class twenty-two years.

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* See General Report throughout. Local Reports of Scotland, Edinburgh, p. 153; Dumfries, p. 214; Local Reports of England and Wales, Birmingham, p. 192; Liverpool, p. 282, &c.

The deaths in the different districts of London, vary from one in nineteen in St. Olave's, to one in fifty-six in Hackney, owing, in great measure, to the greater proportion of poverty and crowded streets and houses in one than in the other.

It would have been more satisfactory and conclusive, if, in addition to these consequences of improper management of the dead and churchyards, Mr. Chadwick could have ascertained, more extensively, the sanatary condition of all the people who live within reach of the malaria of burial grounds, or drink the waters that come partially or entirely through these depositories of human flesh. But he has brought forth facts enough to give us fair warning of the evils that follow from these exposures.

Mr. Chadwick has described, in detail, many of the funeral customs among the poor, and the bearing of these upon their moral and pecuniary condition. We have only space to glance at these.

The costs of funerals in London and other towns of England are very great. In many cases they seem to us enormous; and upon the poor they bear heavily. Beside the necessary expense for the purchase of the privilege of burial, and the digging of the grave, the carrying and depositing the body in the earth, custom demands many other expenditures which the friends cannot resist. An ordinary funeral, in the middling classes, will cost 250 to 300 dollars; in the labouring classes, 20 to 25 dollars. A clergyman was buried for $532; a person of the condition of an attorney for $300 to $500. A gentleman for $1000 and upwards. Tradesmen of the better class for $350 to $500; average tradesmen for $300. Persons of rank for $2,500 to $7,500.*

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* It may seem strange to us how so much money could be expended for the funeral service. We copy this bill of an undertaker from Mr. Chadwick's report, p. 267.

	£	*s.*	*d.*
Elm coffin, lined, ruffled, mattress, sheet and pillow,	3	11	0
Leaden coffin, plate of inscription: 5 men with do.,	6	15	0
Outside case, brass engraved plate, 5 men with do., and making up,	9	9	6
Pall, 7*s.* 6*d.*; 2 porters, scarfs, staves, covers, bands and gloves, 38*s.*,	2	5	6
Four gentlemen's crape scarfs, bands and gloves,	6	12	0
Seventeen silk “ “ “	41	5	0
Hearse, four horses, feathers and velvets for ditto,	5	16	0
Five coaches, pairs, “ “ “	9	15	0
Six coach cloaks, bands and gloves, 60*s.*; truncheons and wands, 6*s.*,	3	6	0
Eighteen pages and bearers, silk bands and gloves,	11	14	0
Attending and assistance, 63*s.*; scarf, band and gloves for minister, 55*s.*,	5	18	0
Hat band and gloves for clerk and rector, 30*s.*, grave-digger, &c., 3*s.* 6*d.*,	1	14	6
Paid vault dues, £4 12*s.* 6*d.*; letters 20*s.*, fetching company, 4*s.* 6*d.*,	5	17	0
Two crape bands and gloves for servants, 20*s.*; 8 silk do. do., 53*s.*,	6	0	0
Thirty-four men's allowance, 28*s.*,	1	8	0
	£121	5	6

In another bill is a charge for 6 ladies' hoods, for lid of feathers, for bell and searchers, for dues at church, &c., &c.

In the bill for the burial of ——— Esq., are charges for wool bed, 10*s.* 6*d.*; 6 silk scarfs, hat bands and gloves for clergyman, £13 16*s.* Hat bands and gloves for two porters, for men carrying the ostrich feathers, for 3 coachmen, for 8 hearse pages, 6 coach pages, for clerk at the ground, four servants of carriages; terrace beadle, man servant, and for others not specified, and for Mr. Owen, amounting to £28 15*s.* 8*d.*; for hat bands and gloves. The cemetery dues are £22 7*s.* 6*d.*, and the whole cost of the funeral £130 16*s.*, or about $650. Mourning coaches, with feathers, velvets and hammer cloths, pages and wands, are among these items.

In Scotland the cost of burial in the middling classes is $60 to $125. The proximate estimate of the expense for the total number of funerals in England and Wales in one year is $24,357,465. The sum for the metropolis is $3,133,000.

Oppression and extortion seem to have taken advantage of these mournful occasions, when the survivors are too absorbed in grief to attend to the details, and too heart-broken to resist the cost of any material or service rendered the dead. The poor often find it difficult to raise the money required; and the funeral is sometimes delayed for this purpose. There are, it appears, Shylocks of the graveyard as well as of the exchange; but they demand their money before they will take their pound of flesh.

Burial-clubs are common in some of the cities of England. These are merely a sort of safety-fund or life-assurance *association*, being limited in their object to the burial of the members who are thus insured. They are supported by small and periodical deposits, according to the age of the person, and the style in which his or her funeral is to be performed. Some provident societies and savings institutions receive deposits for this purpose.

There are about two hundred of these burial-clubs in Westminster, Mary-le-bone, Finsbury, Tower Hamlets, and the old city of London, confined to the labouring classes chiefly. In the city of Preston, with 53,000 inhabitants, 30,000 are associated in these clubs. There are similar associations among the higher classes, who thus secure sometimes as much as £200 for the expenses of their burial.

Some of these clubs pay all the cemetery and funeral expenses: all the bills of the grave-digger, undertakers, upholsterers, coffin-maker, &c. Other societies undertake the whole conduct of the funeral, and the responsibility of the burial; they supply all the materials, and procure all the service and labour required. In some cases, the members of the club attend as mourners.

"The burial-clubs of the labouring classes are generally got up by an undertaker and a publican, at whose house the club is held." This is a mere speculation, by which the interested parties get the subscribers to pay in advance, and in small sums, for the service, which they agree to render back to them after their death. These men furnish every thing, grave-digger, coffin and shroud, bearers, coaches, and even clergymen, all for the sum agreed upon in life.

It is not unfrequent for persons to enter themselves or their children in more than one burial-club, which pays definite sums for this purpose, in order to secure a large amount of money at death. This has been the cause of cruel neglect, and even of murder, on the part of parents or guardians of children so insured. One child in Manchester was rumoured to have been starved to death; on examination by public authority, gross neglect was proved. "The child had been entered in ten burial-clubs, and its parents had six other children, who only lived from nine to eighteen months respectively." No crime could be fixed upon the father, and he recovered £34 3*s.* from all these clubs. He had received £20 for another dead child before this as a premium for his negligence.*

Some cases of direct infanticide were detected. One man was convicted of and punished for poisoning his three children with arsenic, for no other purpose than to gain the burial-fees from the clubs. Many impostures connected with this burial-insurance were discovered—such as the borrowing a dead child, which had not been insured, and palming it off upon the insurers as the one which had been entered. One man got his own burial insured for £50, and then committed suicide, directing his family to receive the money, and to bury him cheaply.

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* "They often say—*You are not treating that child properly; it will not live; is it in the club?*"—Report, p. 64.

"Notwithstanding the immense sacrifices made by the labouring classes for the purpose, neither they nor the middling classes obtain a solemn and respectful interment; nor does it appear practicable that they should obtain it by any arrangement of the present parochial means of interment in crowded districts."—p. 79.

The respect for the remains of the dead, and the solemn conduct of the funeral are among the dearest sentiments of surviving friends, and should be cherished by all. But these are grossly and cruelly disregarded in these speculation-burials; and even in many of the parochial funerals, they are neglected. The busy and the idle crowd seem to pay no respect to the mourning procession; carriages drive through it—rude boys insult it—and even the burial-service at the churchyard or chapel is sometimes interrupted by vulgar adults calling out to the clergyman, "*Read out, old fellow.*"

"It is a frequent thing that the grave-digger, who smells strongly of liquor, will ask of the widows or mourners for something to drink, and, if not given, he will follow them to the gates, and outside of the gates, murmuring and uttering reproaches."—p. 81.

The parochial interments do not appear to be much more satisfactorily conducted. The burial-service of these is to be performed by the clergyman, the incumbent or the curate. The parish of Christ Church, Spitalfields, has "one burial-ground," and one church attached to that burial ground, and "an *interrable* population of 23,642." It is not to be wondered at that the rector, Rev. William Stone, "finds an extreme inconvenience in this part of his duties." The funeral service is performed for a fee in the chapel, and for less cost out of doors. Sunday being the day preferred for this occasion, often the processions crowd thickly upon each other. Fifteen funerals have been appointed at the same hour and place, and a single clergyman to officiate for all. "Burials *in* church clash with those *out* of it." "Mourners are kept waiting in a cold, damp burial-ground." Whatever may be the weather, these must wait until their turn comes to be served. Then the service is hurried and unsatisfactory to all parties—to the minister, to the mourners, and to the people.

All these evils; the location of the burial-grounds in the midst of the living, and their crowded condition; the frequent disturbance of the dead by re-digging their graves for new occupants, the oppressive expenses of and the abuses connected with the whole burial-service, and the burial-insurance; the want of due solemnity in the funeral, and of due respect for the feelings of the mourners: all these call loudly for redress, and Mr. Chadwick proposes a plan for their removal.

He says, that "the practice of interment in towns, in burial-places amidst the habitations of the living, and the practice of interment in churches, ought, for the future, and without any exceptions of places or exception of persons, to be entirely prohibited.—p. 199.

"That the necessities of no class of population in respect to burial ought to be abandoned as sources of private emolument to commercial associations, but that national cemeteries of suitable description ought to be provided, and maintained (as to the material arrangements) under the direction of officers duly qualified for the care of the public health.

"That houses for the immediate reception, and respectful and appropriate care of the dead, under superior and responsible officers, should be provided, in every town, for the use of all classes.

"That provision should be made, by the officers having charge of the national cemeteries, for the supply of requisite materials and services—securing to all classes, especially the poor, the means of a respectable interment, at reduced prices, suitable to the station of the deceased, and the condition of the survivors.

"That for these purposes, and for carrying out the physical arrangements necessary for the protection of the public health, in respect to the practice of interment, officers of health, qualified by medical education and special knowledge, should be appointed.

"That no interment be allowed without the verification of the fact and cause of death by the officer of health.

"That in all cases of death from removable causes of disease, the officers have power for the removal of these causes, and the protection of strangers from exposure."—p. 199, 200.

Such an officer is to visit every house of mourning, however poor or rich, and ascertain the name, age and occupation of the deceased, and all the circumstances of death—to give advice and aid as may be needed—to take the place of churchwardens, overseers, and all who now have the charge of burials. He is to provide undertakers, sextons, bearers, and all assistants who are needed for this solemn service. These are to be under his control, and responsible to him for their performance of duty. "It is proposed that the last medical attendant of the deceased should, on a small payment, be required to give immediate notice of the death" to this officer; or, if there were no such attendant, then the occupant of the house, or the one who has charge of the body, should give this notice.

This health officer must make a post-mortem examination if the case require it. He must notify the prosecuting officers if there be any suspicion of criminality connected with the death.

Where sickness remains in the family, or epidemic diseases prevail, the body is to be removed to the house of reception under the charge of a public officer, and kept there until the family are ready for the burial.

Coffins of all sorts and sizes are to be kept by this officer ready to meet every emergency, and for such bodies as are already in a state of decay—they may be made impervious to water or gas "by coating the interior over with a cement composed of lime, sand and oil."

One of the greatest advantages resulting from the investigations of this health officer, and the publication of his register, is the discovery of the prevalence of malaria or of epidemics, which could not otherwise be done. One registrar testifies,—

"I find that neither my experience as a medical officer, for many years in the parish, nor my experience as a private practitioner, gives me the same extended view of the causes of death as the mortuary registration. It brings to my knowledge cases which I could not know as a private practitioner—for example, the occurrence of small-pox or epidemics."—p. 179.

Sometimes the causes of disease or the origin of malaria may be very obscure; but the examination of many cases, or of all, that occur in one locality will lead to the detection of some fact or circumstance which may be common to and connected with the whole. This officer is to be empowered to remove, at once, any case of fever or infectious disease from any crowded situation, and even, if need be, to remove from the infected premises all the inhabitants; and, if any local cause of the infection be found, he must give notice of such facts to the officers who have charge of the drains and streets, who shall immediately cleanse, purify, and lime-wash them as the case may require before they are permitted to be re-occupied.

The officer who has these duties to perform must be a physician or surgeon, but not in private practice. He must be a man of firmness but of bland manners, so that he do his duty faithfully, without offending the sensibilities of the afflicted families, and overcome their prejudices against the presence of a stranger in the scene of their sorrow. He must be a skilful pathologist in order to detect readily any morbid appearances, and all facts or matters that may have interfered with health, and be able to make such deductions from his discoveries as will enable others to avoid the causes of disease.

Mr. Chadwick proposes to give the principal inspector of public health the rank and salary which are given to an inspector-general of hospitals in the army, that is £1 15*s.* per day, amounting to $3,100 a year. A deputy is to receive about $2,100 a year. Other officers to receive somewhat less. Twelve of these officers are supposed to be sufficient for the metropolis.

By these means Mr. Chadwick supposes that the expenses of the burials in London, which now are between six and seven hundred thousand pounds, would be reduced more than one half. This detection and removal of the sources of malaria would prevent the farther spread of many of the endemic, epidemic and contagious diseases which now carry off more than eight thousand annually from London alone.*

This cost of prevention is much more than counterbalanced by the saving of the expense of funerals. It is stated as a remarkable fact, that

> "In Liverpool alone, in the business of cure and alleviation, there are engaged fifty physicians, two hundred and fifty surgeons, apothecaries and druggists, and not one responsible public officer to investigate the causes of disease with a view to prevention; nor has the city of London one such officer, though it has an expenditure of £72,000 per annum in hospitals and endowed medical charities alone for the alleviation of disease."—p. 189.

If Mr. Chadwick's plans are adopted and carried into execution, the poor will be protected from the evils consequent upon long detention of the corpse in their houses, from exorbitant funeral charges, and many useless and oppressive burial customs; and from all discoverable and removable causes of disease. They will have the consolation of knowing that the bodies of their deceased friends will sleep for ever where they are once deposited, and that the spot may be permanently marked by any monument of respect or token of affection.

The public in general will be protected from the miasmata which emanate from the churchyards in their midst, and their wells would no more be tainted with the exudations that flow from the graves.

With these conclusions the plan of Mr. Chadwick is earnestly recommended to her majesty's government and Parliament for adoption, and to the world for consideration. We wish him success in his undertakings.

This book has a prospective interest for us in America. We are not yet in the state of suffering or danger as are the citizens of London. Yet we may be advancing toward their condition. The occupants of our cities—

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* Deaths from these causes in the metropolis in 1840, 8,361; in 1841, 9,588. In England and Wales in 1840, 65,353; in 1841, 76,064.—*Registrar-General's 3d & 4th Reports.*

the living and the dead—may be gathering in denser crowds than health allows; and, in as far as we permit the putrefactions of the body to take place in our midst, to however small extent, we are violating those plain laws of life which require the air we breathe and the water we drink to be free, not only from all noxious intermixtures, but from all foreign ingredients whatever.

We may take warning from these old cities and avoid their errors. We may take advantage of the plans which have been adopted in Germany, where this whole subject has been thoroughly investigated, especially at Frankfort and Munich. With a slight abstract of the burial regulations of Frankfort we close our article. These were adopted in 1829.

A new cemetery was established out of the town, and all interments within it were abolished at the same time.

A house is established for the reception and custody of bodies after death and before burial.

The mixed church and *school* commission have the control of all interments and cemeteries, and of all officers, superintendents, commissaries, inspectors, and servants connected with these establishments or rites.

Commissaries of interments are substituted for undertakers. These arrange every thing connected with the funeral, and are responsible to the commission.

Bearers are appointed by the commission, and attend all of every rank to the grave.

Four classes of funerals are determined by the law, and a family may select either by paying the requisite fee.

Friends may attend in carriages, but not at the cost of the mourning family.

No burial can take place until after the lapse of three nights, unless the physician certify that decomposition has commenced.

The cemetery is surveyed and prepared, and all the graves are numbered and marked on a plan which is drawn on the ground.

The clerk of the commission records the name, age, and rank of the deceased, and the number of his grave.

No grave is to be re-opened in less than twenty years.

The cemetery inspector is examined and approved by the Sanatary Board, and has immediate charge of the cemetery and all funerals.

All persons employed in the cemetery solemnities, or in the house of mourning, shall appear in good black clothes.

The sextons and gardeners to restore the neatness of the paths, borders, and flowers immediately after they have been disturbed by burial.

The inspector to be notified, in writing, by the commissary of any interment—otherwise no grave can be opened.

The inspector must be present at all burials, and see that every thing is done with dignity and solemnity.

He must inspect all family vaults, and keep a record of all needed repairs, and notify the commission of the same.

> "It is the duty of the inspector to treat all who have to apply to him with politeness and respect, and to give the required information unweariedly with good-will."—p. 207.

The interment commission is elected from the Catholic, Lutheran and Reformed churches, and have charge of all funerals within their respective districts or communities. The family notifies the commissary of any death, who notifies the commission, and receives an interment certificate.

Graves to be dug seven feet long and three and a half wide, and five deep for adults, and a foot of space between them.

All the officers are subordinate, none fixed, and sufficient salaries, and are on no occasion whatever to receive any fee or gratuity in money, food, crape, gloves, under the severest penalties, and all persons are forbidden to give any of these matters to any person connected with the funeral or cemetery service.

The whole cost of funeral and burial is fixed by law in four classes. For adults, 1st class, $22. 2d. $15,75. 3d. $9,75. 4th. $6,56. The fee for children and youth in each class is reduced.

> The house of reception is, "to give perfect security against the danger of premature interment," and "to offer a respectable place for the reception of the dead, in order to remove the corpse from the confined dwellings of the survivors."—p. 212.

The use of this house is voluntary, unless the physician thinks it necessary for the safety of the family.

The body may be removed within six to twenty-four hours after death.

When the thermometer is at 30° Fahr. there must be unequivocal signs of death, and the certificate of the physician to that effect.

The inspector of the burial-ground is also inspector of the house of reception. He must have the requisite medical and surgical knowledge.

In the house of reception are rooms for the dead, a bath room, an animating room, and a kitchen.

In the animating room is a bed, all the means of resuscitation, and warmth and ventilation.

The body is placed on a table, with a string in the hand, attached to a bell, so that the slightest motion gives notice to the watch. If any sign of reanimation be perceived, the body is at once removed to the animating chamber, and means of restoration applied by the inspector.

Friends can visit the body by leave of the inspector, and when it is consistent with their health.

No pay whatever can be received by any of the officers or servants of this house.

If any roughness be shown to the dead the offender is dismissed, and tobacco is prohibited in the house.

Tenderness toward the living and the dead—politeness and courtesy to all and each other are required of all the officers and assistants connected with the whole of this burial establishment.

This is a meagre abstract of some of the regulations for public interment at Frankfort. We commend the whole, in detail, to the attention of the municipal authorities of all our towns and cities.

E. J.

BIBLIOGRAPHICAL NOTICES.

ART. XII.—1. *The twentieth Annual Report of the Officers of the Retreat for the Insane at Hartford.* 1844: pp. 32.

2. *Eighth Annual Report of the Physician and Superintendent of the Vermont Asylum for the Insane.* 1844.

3. *Report of the Superintendent of the Boston Lunatic Hospital, and Physician of the Public Institutions of South Boston.* July 1, 1844: pp. 22.

1. THE report now before us is the first that has emanated from the pen of Dr. Butler since his connection with the Hartford Retreat. It is a sensible and manly document, bearing evidence of its author's interest in the welfare of the insane, and of his practical knowledge of their proper treatment. The statistics of the Retreat for the past year are as follows:—

	Men.	Women.	Total.
Patients at the commencement of the year, - - - - -	46	43	89
" admitted during the year, - - - - - - - - - -	51	29	80
" whole number " - - - - - - - - - -	97	72	169
" discharged recovered, - - - - - - - - - - -	26	18	44
" not recovered, - - - - - - - - - - - - -	19	14	33
" died, - - - - - - - - - - - - - - - - -	5	4	9
" remaining at the end of the year, - - - - - - -	47	36	83

Of the whole number, 61 males and 38 females were unmarried, 33 males and 22 females married, and 3 males and 12 females widowed.

The number of admissions into the asylum since its opening, in 1824, is 1327. Whole number of cures, 746, deaths, 92.

We quote from the report the two following paragraphs, believing them to express the unanimous opinion of physicians connected with institutions for the insane.

"It is only in Lunatic Hospitals that the course of treatment indicated by an intelligent consideration of the different phases of insanity can be applied. No where else can the varied forms of occupation, recreation and amusement be so successfully carried out; no where else can the same amount of indulgence be safely granted. It is here alone that beneficial results can be reasonably expected. Elsewhere the consequences will vary according to the character of the cases. Generally one of two results ensues—the mind, left to itself, dwells with increasing intensity upon the diseased train of thought, until excitement, growing by its own indulgence, overcomes the vestiges of reason, and the sufferer becomes an ungovernable maniac, or, weakened by the shock which disease has inflicted upon the system, gradually loses its power, and sinks into a state of torpidity or childishness."

The following remarks were suggested by the too common practice of removing patients from the institution before they have had time to receive the full benefit of treatment.

"It would be far happier for the insane if their friends would reason as correctly in this as in other diseases. The reunion of the fractured bone does not authorize the immediate removal of the splints and bandages, nor the free use of the limb; the crisis of an attack of fever or inflammation does not justify the instant omission of remedies, the neglect of the precautionary treatment of convalescence, the unguarded indulgence of appetite, or the dismissal of professional oversight and advice. Now the brain is amenable to the same natural laws as other parts of the human frame, and insanity is neither a demoniacal possession nor an abstract excitement of intellect; but it is as truly a physical disease as fever or rheumatism."

"The records of the Retreat present some melancholy evidences, in the history of returned and incurable cases, of the evils resulting from violations of these self-evident propositions."

2. The Vermont Asylum for the Insane has been enlarged, during the past year, by the addition of about sixty rooms. The arrangements are now such that the patients of each sex can be divided into six distinct classes, a "consummation to be wished," in every institution of the kind. The "Asylum Journal" is still published, and, in exchange for it, more than two hundred newspapers are received. According to the statement of Dr. Rockwell, these have superseded the books in the library; a change, of the utility of which, there might be some difference of opinion.

Statistics of the Asylum during the past year.

Patients at the commencement of the year, - - - -	136
" admitted during the year, - - - - -	96
Whole number during the year, - - - - - -	232
Discharged and died, - - - - - - -	74
Remaining at the end of the year, - - - - -	158
Of those discharged there were, recovered, - - - -	51
" " " not recovered, - - - -	16
" " " died, - - - - -	7

Dr. Rockwell's reports are always brief but comprehensive.

3. The nature of the Asylum for the Insane, the report of which is before us, is such as entirely to preclude the possibility that it should become an eminently curative institution. The patients sent there "are those labouring under *chronic* mania, dementia or melancholy; none with *acute* mania or the furiously mad being admitted." And again, "The advantage possessed by other asylums, not (exclusively) pauper, of being able to send their incurable patients to their friends, or return them to the Almshouses or the Houses of Correction of the towns or counties from which they came, does not attach to this Hospital. Here, the incurable must remain till the friends, if the sufferer have such, remove him, or, what is more often the case, till death closes the scene."

"Since the last annual report was presented," says Dr. Stedman, "a bathing-house has been erected. It is situated just within the sea-wall, where the tide ebbs and flows uninterruptedly by, and has an area of fifty by twenty-five feet, affording a fine space for swimming. The house covers one-third of this space, and is fitted up with every convenience for cold sea bathing, and in such a manner that the patients of each sex can be accommodated equally well."

	Males.	Females.	Total.
No. of patients admitted during the year, - - - - -	15	14	29
" " discharged and died, - - - - - - - -	15	14	29
" " discharged cured, - - - - - - - - -	5	4	9
" " died, - - - - - - - - - - - - - -	2	3	5

Average number during the year, - - - - - - - - - - - - -	105
Whole number admitted since opening, 4 years 7 months, - - - - -	288
" " discharged and died, - - - - - - - - - - - - - -	180
" " remaining, - - - - - - - - - - - - - - - - -	108

P. E.

Art. XIII.—1. *Reports of the state of the Kent County Lunatic Asylum*, for 1842 and 1843.
2. *Statements of the Visiting Committee of the County Lunatic Asylum, near Gloucester*, for 1842 and 1843.
3. *The Report of the Committee of Visitors of the Lunatic Asylum for the County of Leicester*, January, 1842.
4. *Thirty-third Annual Report of the General Lunatic Asylum, near Nottingham*, September, 1843.
5. *Reports of the Medical Officers of the Lunatic Asylum for the County of Lancaster*, for 1841, 1842 and 1844.
6. *Fifty-ninth, Sixty-fourth and Sixty-eighth Reports of the Visiting Justices of the County Lunatic Asylum, at Hanwell, including the Annual Reports of the Physician*, for 1841, 1842 and 1843.

The first four institutions above-mentioned still adhere to the old method of publishing their annual reports upon a single sheet, and the amount of matter therein contained is necessarily comparatively small. The reports of the Lancaster Asylum, and that of Middlesex, at Hanwell, are beautifully printed in pamphlet form, octavo, and are sufficiently voluminous, as well as minute in details.

The following table, compiled from the several reports before us, exhibits the results of treatment in the respective institutions, from the time they were first opened for the reception of patients:—

Asylum.	Time.	Admitted.			Discharged cured.			Died.			Remaining.		
		Males.	Females.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.
Kent,	From January 1, 1837, to December 31, 1843,	382	303	686	104	63	167	144	62	206	108	141	249
Gloucester,	From ——— —, ——, to December 31, 1843,	827	725	1552	–	–	852	–	–	178	122	134	256
Leicester,	From Jannary 1, 1837, to December 31, 1841,	–	–	337	–	–	141	–	–	42	–	–	105
Nottingham,	From February 12, 1812, to June 30, 1843,	765	604	1369									
"	Readmissions, - - - - -	172	122	294									
"	Total, - - - - - - - -	937	726	1663	407	359	766	151	68	219	76	83	159
Lancaster,	From July 28, 1816, to June 23, 1844,	2265	1825	4090	893	804	1697	928	612	1540	299	300	599
Hanwell,	From October 1, 1830, to September 30, 1843,	1279	1309	2588	307	296	603	493	405	898	412	563	975

Improvement is, emphatically, the watchword at the institutions for the insane in Great Britain. Parties, entertainments, &c., those prominent adjuvants in the moral treatment, are becoming more frequent, and various methods are devised for the purpose of amusement, instruction and recreation, all apparently contributing to the contentment and the mental restoration of the patients. The report from Nottingham says, that the "parties and refreshments" have been "of decided benefit in a medical point of view;" and singing, conducted on the principle of Wilhem, "has proved a source of much amusement." At Gloucester, besides the "accustomed round of balls, evening parties," &c., singing, upon the Mainzerian system, has been introduced, and, in the words of the report, "of all the amusements calculated for a lunatic asylum, it is, perhaps, one of the best that could be devised." At Hanwell, where everything is conducted upon an extensive scale, parties of 200, and even 300, assemble to amuse themselves with games, and to regale themselves with the luxuries of the land. Singing and dancing, "roast-beef and apple-pies," and, to cap the climax, "one pint of beer, some tobacco and a new pipe for each patient desirous of smoking," such are some of the resources for mental and physical enjoyment at this asylum. A few days after one of the banquets, "a grave, elderly Scotch patient, who lays claim to titles and wealth, expressed a wish to the house surgeon, that he would give "those rebels, who slept in the same room with him, a supper every night; for that whereas they were usually singing and noisy, they were, on that particular night, perfectly quiet."

Since Dr. Conolly became connected with the Hanwell Asylum, schools have been established for the patients, in which reading, writing, geography, arithmetic and singing are taught by persons specially employed for that purpose. On the 21st September, 1842, one hundred and ten patients were in attendance at these schools. The results of this plan have been abundantly beneficial and satisfactory.

The following extract from the report of the Gloucester Asylum, for 1842, exhibits a new feature of "moral treatment:" "The system of introducing a limited number of students of each sex to an association with the patients of both sexes, and of employing females, more freely, to assist in the attendance upon the male patients, has been persevered in throughout the year, and has fully answered the expectations entertained. The patients being under the immediate direction of educated persons, instead of being left to the care of servants, have been manifestly more comfortable; and that state of irritation and disquietude so often observed among the inmates of an asylum, has been so generally removed, that the resident physician has formed the first-class patients, of both sexes, together with the students and the members of his own family, into one domestic party, and they daily assemble, for meals and for amusement, in one or other of their respective apartments."

But a more important subject than any to which we have alluded, still awaits our attention. We refer to the *entire abolition or disuse of mechanical restraints upon the persons of patients confined in lunatic asylums.* It must be confessed that, after a perusal of some of these reports, we became convinced that, in regard to this subject, some of the British institutions are in advance of any in the United States, the phrase "in advance" being used on the supposition (for the proposition is far from being demonstrated to the satisfaction of all) that the entire disuse of mechanical restraints is possible, proper and the most conducive to the true interests of the insane. As this subject is of great importance in a practical, as well as in a humane point of view, as there is a diversity of sentiment upon it in Great Britain, and as it has but barely been broached in the United States, it is worth our while to look a little into it, and to give the advocates of the system of non-restraint a fair hearing.

It appears that the system was originated at the Lincoln Asylum, England, where, "after many difficulties," it "seems at length to be completely established." In the report of the Gloucester Asylum for 1842, the officers of that institution say, "All mechanical restrictions upon the persons of the patients have continued to be disused during this year: the state of the house has, in its quietness and tranquillity, warranted this; and although occasional violence on the part of patients has, as formerly, occurred, a more judicious appeal to the moral instead of the physical powers of the attendants—a removal of the excited from the society of his comrades—or, a more complete seclusion in a well-guarded chamber, have been found to subdue the violence, when mechanically confining the limbs would only have increased the irritation."

The Lancaster Asylum, one of the largest institutions of the kind in England, was among the first to adopt the measures commenced at Lincoln; and, from the following extract from the report for 1841, no one will hesitate to acknowledge that some amelioration, if not all that was attempted, would be consonant with the spirit of humanity.

"From the opening of this asylum, in 1816, mechanical restraint appears to have been extensively employed; and at the time your officers took charge, they found twenty-nine persons wearing either hand-cuffs, leg-locks or strait-waistcoats—exclusive of between thirty and forty patients who were chained down, during the day-time, on seats so constructed as to answer all the purposes of water-closets, in rooms known by the appellation of "the warm rooms;" moreover, during the night-time, all the epileptic and violent patients were chained, or otherwise secured, in bed. It was also an established custom "to place every case, on admission, under restraint during the night-time, for a longer or shorter period, as might appear expedient."

With this scene of moral deformity before them, the officers, as the report proceeds to relate, "at once determined gradually to abolish every species of mechanical restraint, and they have great gratification in stating, that now for upwards of five months, not a single patient has been so restrained. In all cases of violent excitement, if gentle persuasion fails in subduing the irritability of the patient's mind, he is removed, as carefully and mildly as possible, to his own room, where he is left alone, or, if circumstances require it, to a room into which is admitted a subdued light, and so constructed and prepared that he cannot injure himself."

In the report of the same asylum for 1842, it is stated that the system of non-restraint is still steadily adhered to in this institution, and no case has occurred, during the last seventeen months, where the medical officers have had recourse to any of the ordinary modes of mechanical coercion; and the same officers "bear a cheerful and willing testimony to the great advantages" of the system. Two years afterwards, in the report for 1844, they write as follows:

"The system of moral management and control, in contradistinction to mechanical restraint and coercion, is strictly adhered to; and since first adopted, it has only once been found necessary to depart from it, and that in the case of a very violent and uncontrollable epileptic patient, who had got an impression that the medical officers durst not have recourse to any coercive measures, such as were formerly in constant use, no matter how outrageous his conduct. This patient was placed under restraint for six hours, with the best effects as regarded himself, and with great advantage to several parties in his gallery, who had, through his instrumentality, shown symptoms of great insubordination."

The officers, under whose supervision and by whose direction this revolution in the government of the Lancaster Asylum was made, are Edward D. De Vitré, M. D., Physician, and Samuel Gaskill, surgeon. They merit the meed of praise due to all practical philanthropists, even on the assumption that, like many other reformers in their righteous avoidance of one extreme, they may have gone to its opposite.

Dr. Conolly, than whose mind, perhaps, no stronger is at the present time bestowing its energies upon the medico-moral treatment of the insane, commenced his career at the Hanwell Asylum with the determination to carry out, *in extenso*, the system of non-restraint in that immense institution. He met with no inconsiderable opposition to the prosecution of his plan, from some of the officers with whom he was associated. In his report for 1841, he thus speaks of these difficulties, and of the progress made in the introduction of the system.

"In October, 1840, after a year's experience made in circumstances, some of which were singularly unfavourable to the success of the trial, he (himself) felt himself justified in announcing its probable success. Another year has now passed, and the experiment has, for a part of this year, been conducted by a united household. From the moment of this union of purpose among the officers and attendants, the obstacles besetting the experiment have diminished; accidents and assaults have become less frequent, and the general tranquillity and order of the asylum have increased. However unpleasant the recollection of the state of the asylum may be at the time of the commencement of the change of system, it affords the important knowledge that confusion among the patients, is the concomitant of unfaithfulness in those on whose exertions the superintendent must depend, and the preservation of discipline easy, when those, whose office it is to preserve it, are zealous and sincere. Every successive month appears to add to these encouraging effects; the attendants daily acquiring a clearer appreciation of a system from which violence of every kind is excluded."

Again, "patients liable to attacks of mania, in a house where restraints are much employed, regard the accession of an attack with terror; but it is quite possible to screen them from every danger without restraint. The indignation of those upon whom restraints were forcibly imposed; their eloquent exposition of its degrading and maddening effects; their fierceness when running about the wards in a strait-waistcoat; the alarm and discontent their presence occasioned to other patients; their speechless joy, their sobs and tears, when unexpectedly liberated, when both in seclusion and restraint, in the midst of a paroxysm of reproaches prolonged until they were covered with perspiration, and their lips were literally covered with foam—are things of which the memory can never be effaced from the mind; and they make the ear deaf to specious representations of the comfort of straps and strait-waistcoats. When these results are contrasted with those of simple seclusion; when the angriness, the ferocity and sullenness, characteristic of some of the wards in which restraints were habitually employed, (as in the epileptic wards,) are compared with the present indications of confidence and general good temper, the firm impression left is, that the general bad effects of restraint, and its liability to abuse, are immeasurably more pernicious than any thing that can be occasioned by its discontinuance."

In his report for 1842, he thus continues to bear testimony to the beneficial influence of the system. "The resident physician has now but the agreeable task of recording, that time and patience, and the zealous co-operation of all the officers of the asylum, have enabled him to overcome many obstacles, and have confirmed him in the belief, at first encouraged with much diffidence, *but now established beyond the likelihood of ever being overthrown*, that the management of a large asylum is not only practicable without the application of bodily coercion to the patients, but that, after the total disuse of such a method of control, the whole character of an asylum undergoes a gradual and beneficial change. The results are daily developing themselves to all daily observers, and can scarcely yet be fully known and appreciated; but every year is affording new and satisfactory proofs that the principles are not dangerous or delusive, but founded in reason, and fertile in advantages."

Finally, in the report for 1843, Dr. C. says: "The whole experience of the last twelve months, has fully confirmed the impression made in the years preceding, that, by the abolition of physical restraints, the general management of the insane has been freed from many difficulties, and their recovery, in various degrees, greatly promoted."

Thus far the evidence of Dr. Conolly. Other extracts upon the subject might be made from his interesting and somewhat voluminous reports, but these are sufficient for our purpose. Let us consider now what others state in relation to this subject. The "visiting justices" of the Hanwell asylum, in their report for 1841, hold the following language:

"At the Michaelmas Quarter Sessions of the last year, a question arose as to whether the system which had been adopted by the resident physician of the asylum at Hanwell, and had been sanctioned by the visiting justices, had not been carried out in too rash and unqualified a manner to be perfectly safe. Such were the conflicting opinions entertained upon this question, by intelligent men, that it was then resolved, by the magistrates assembled, to intrust the control of the asylum to the same visiting justices for another year, and to postpone any decision upon the subject, if a decision might be necessary, until the court could have the benefit of a longer experience, and the more matured judgment of its committee."

After the additional "experience" required, the visiting justices write as follows.

"The points upon which the visiting justices have specially to report, are, whether, in the management of the patients at Hanwell, the mechanical means heretofore employed in restraining violence, or in preventing accidents, can be altogether dispensed with without great danger to the insane or to their attendants; and whether there may not be more of actual cruelty, hidden under the show of humanity, in the system of non-coercion, than was openly displayed in muffs, strait-waistcoats, leg-locks and coercion-chairs." * * * *

"Do the means which are now adopted at Hanwell, offer an equal security (with the old system) against the dangers to which every institution, and especially every large institution for the insane is liable? Are they sufficient to guard, not with absolute certainty, but with reasonable hope, against danger, equal at least to the mode of management for which it has been substituted? *The visiting justices beg to answer distinctly in the affirmative*, and to state as the result of their experience, that notwithstanding the many obstacles with which the non-restraint system has had to struggle, notwithstanding the difficulties which have unavoidably attended the transition from one system to another; notwithstanding all these, and even more than these obstacles, by which the means have been materially weakened that were relied on for complete success, that success has fully equaled their hopes, and has presented advantages which, in their opinion, more than compensate the imperfections to which every human contrivance is liable." * * * * * * * * * *

"It has been supposed that there is actually more of cruelty in this system, under the guise of humanity, than in that which was partly carried on by instruments of coercion. To this the visiting justices would beg, in reply, to say, that they can detect no grounds for so serious an imputation. If it had altogether failed, and by its failure entailed unnecessary suffering upon the patient, then, indeed, it might possibly be open to such a charge. But such is not the case. It has not failed, but has succeeded; and the visiting justices have one of the best proofs of its success in the testimonies of the patients themselves, when they are restored to health, and are fully alive to the comforts and advantages which they have enjoyed under it."

In their report for 1842, the same authorities say: "Your committee deem it no longer necessary to impress upon the court the wisdom and value of the Hanwell system of the treatment of the insane." In 1843, their report commences as follows. "The visiting justices have the satisfaction to find that every year, as the excellence of the non-restraint system becomes more generally recognized, it affords fewer materials in the asylum for comment or report. For four years it has been the settled rule of the house, that no harshness or coercive cruelty should be used in any case, but that every patient, however violent, should be treated with uniform kindness and forbearance; and during that time such has been the undeviating success of this plan, such has been the even tenor of its course, that it now presents no new facts or features either to vindicate or explain."

The important question of the utility of the system under discussion, being thus definitely settled, it were useless to make farther extracts confirmatory thereof. If, then, all mechanical restraints, directly applied to the body or the limbs of the insane, are to be entirely, and under all circumstances abolished, by what means is the object attained for which those restraints were invented? Raving maniacs are alike in all countries, at least in one point, in that for their proper management, having in view their own good, and the safety of the persons and property of others, some means of restraint or curtailment of liberty is essentially necessary.

The resources of the system of anti-coercion, as we learn from the reports before us, are *moral suasion; garments made of strong materials; the holding, by an attendant, of the body or limbs; padded rooms; windows shielded by wire screens; seclusion and the shower-bath.*

In the report of the visiting justices of the Hanwell Asylum, for 1841, they state, that in consequence of the introduction of the new system, "the breakage of glass in 1840, more than doubled that of 1839. In the latter year it was nine crates of glass, and in the former it mounted up to two-and-twenty. In the course of the present year wire-work guards have been fixed to the windows, and these promise to be much more effectual than the means which were formerly in use."

Again, in the same report, while treating upon the means of the non-coercive system, they say, "As a last resort, and, as it has proved, an effectual one, the patient is placed, with the least possible violence, in seclusion. In some instances, it is true, the shower-bath may be required as a medical [?] remedy; but seclusion in a room, in ordinary cases, has been found, and usually in a short time, to produce the desired effect."

We have placed a note of interrogation after the word "medical," querying, in our own mind, why the visiting justices should have found it relevant to the subject to speak of the shower-bath in this connection, it being used, according to them, as a *medical* agent, whereas it was the *moral* treatment alone that was under discussion.

The subjoined extract is taken from the "general duties" of the attendants at Hanwell, in the report last mentioned.

"When it is necessary to seclude, remove or give a bath to a refractory patient, or to dress or undress those who strongly resist, the attendants should not be fewer than four or even six. This will prevent a dangerous struggle. The attendants must promptly render the violent patient unable to strike or kick, by seizing the hands or the feet. The patient may then be quickly and quietly removed to the bath, or into a single room, or dressed or undressed without injury to any party."

From the "directions for the regulations of the conduct of the attendants in the performance of their duties," at the Lancaster Asylum, contained in the report of that institution for 1841, we make the following extract. "It should always be kept in mind, that every thing is done for the benefit or improvement of the patients, and *not in the way of punishment.* On this account, *when the shower-bath is used with a view to correction*, the patient must be brought to it mildly and firmly, but with no taunts or irritating expressions."

Now it appears to us that the visiting justices have been driven to adopt unusually nice philological distinctions, when they endeavour to explain the possibility of using the shower-bath "*with a view to correction,*" yet "*not in the way of punishment.*"

We have thus endeavoured to give a faithful, though brief exposition, or, rather, outline of the system, which, it is proposed, shall be substituted for that heretofore in vogue at asylums for the insane. The language of its advocates has been chiefly employed, that there might be no misrepresentation. Never having been a personal witness of the practical effects of the system, (although always advocating the disuse of physical restraints, so far as we believed was best for the true interest of the patients,) we are, of course, not properly qualified for the expression of an opinion thereupon. We know, however, that wire-screens are unsightly appendages to windows, and that seclusion is often considered, by the patient, as punishment; and we believe that restraint, by the hand of an attendant, is sometimes more irritating than that of muffs or wrist-bands; and that the shower-bath is, to some patients, an object of far greater terror than the ordinary means of corporeal restraint. But we have high authority in favour of the permanent utility of the new system, authority which we are not disposed to question or disparage, and the testimony of which was given after a somewhat prolonged experience. Such evidence is certainly worthy of respect and consideration.

At the risk of tediousness, we must refer to one point more connected with the subject in question. In their report for 1841, the visiting justices at Hanwell congratulate themselves that their opinions in regard to the excellence of the system, may "receive much additional value from the testimony of Mr. Samuel Tuke." The "testimony" here referred to, is then quoted as follows, from Mr. Tuke's introduction to Dr. Jacobi's work "On the Construction and Management of Hospitals for the Insane."

"The change which has taken place in all our asylums is truly encouraging, and who can visit or contemplate the establishment at Hanwell, containing eight hundred (now nine hundred and thirty) insane persons, governed without any personal restraint, without admiration and surprise? From the zeal, talents and integrity of Dr. Conolly, we shall doubtless learn, in the most satisfactory manner, the further result of this large and extraordinary experiment; and, in the mean time, the considerations which the proceedings at Lincoln and Hanwell have induced, as to whether, in our respective asylums, we may not safely and advantageously, at least, still further diminish the amount of personal restraint, is operating, and will continue to operate, very beneficially."

It sometimes happens that it is necessary to hear the whole evidence of a witness, before it can be satisfactorily determined what bearing his testimony may have upon the question to which it relates. The extract just quoted occurs on the xxxv. page of the "introduction" aforementioned. On the two preceding pages, the xxxiii. and xxxiv., we read as follows.

"It is even asserted, that all mechanical means of restraint may be *entirely* and *advantageously* superseded in our asylums, by the exercise of moral influence. The very important experiments commenced at Lincoln, and now carrying on at Hanwell, *have not yet, I venture to say, quite determined the question in the affirmative.*

"I freely acknowledge the conviction, that there are cases in which, under the most favourable management, *we should best consult the feelings of the patient, as well as the comfort of his companions, by the application of mechanical means of restraint.* Certainly there are cases in which the patient solicits it, where the reason struggles with the impetuous delusion, and finds, even in a degree of restraint, which, upon a man not insane, would be no preventive to mischief, a help to self-control, a check upon the specific mode of action to which the malign influence impels him. Such cases are not very common, *neither are they very rare.* I have witnessed them in connection with a strong disposition to strike others, as well as with an occasional rushing impulse to a particular means of self-injury. There are, also, cases in which no struggle of the reason is perceived, marked by a determined disposition to violent and dangerous action, or a strong active suicidal tendency, *in which I apprehend some restraint upon the free action of the body must be imposed*, either by the *passive* resistance of mechanical applications, or by the active coercion of human force." * * *

"If the patient is not to be restrained by a strap, are there no other vulgar appliances within the attendant's reach, by which he may *overawe* the unhappy subject of his care? *I fear and believe there are;* and that in the struggle which cannot fail, occasionally, to take place, fear may be excited, sufferings may be inflicted, far more distressing than those occasioned by the right application of mechanical restraint, with this additional disadvantage, that they are less open to public notice. Nothing is more to be deprecated, in the management of the insane, than protracted struggles between them and their care-takers. In our large institutions the attendants must be left, to a very great extent, to carry out the directions of the superintendent in their own way and spirit; and this, our knowledge of attendants, as a class, hardly justifies us in expecting will even *generally* be the best. * * * The law of brute force, by which men so constantly tend to accomplish their ends, acts through an almost infinite variety of means, and *neither chains nor straps are absolutely essential to its most cruel application.*" Such is the language of Samuel Tuke, a man who, as is testified by the visiting justices of Hanwell, "brings to every branch of this subject great intelligence, and the experience of forty years at the Retreat, the well-known asylum instituted by the Society of Friends, and of five-and-twenty years at York and at Wakefield." P. E.

Art. XIV.—*Drei chirurgische Abhandlungen, über die plastiche chirurgie des Celsus, über organische Verwachsung, und den in das Fleisch gewachsenen Nagel, von* Dr. Eduard Zeis. Dresden und Leipsig, 1843, 8vo., pp. 176.

Three Surgical Treatises; on the Plastic Surgery of Celsus; on Organic Adhesions; and on the Inverted Toe Nail. By Dr. Edward Zeis.

The first of these essays—for we can scarcely accord to them the name of treatises—is, strictly speaking, a criticism upon a translation, by Dr. Ryba, of Prague, of the ninth chapter, book seventeenth, of Celsus' treatise *de medicina.*

This part especially of the writings of Celsus has occupied the attention of a host of commentators, whose labours, instead of throwing any satisfactory light upon the true meaning of the Roman physician, have tended rather to render it still more obscure. Von Walther, in his aphorisms, first century, has indicated with tolerable accuracy the general outlines of the subjects treated of in the chapter referred to, and clearly shown that the lateral operation was already known to its author.

In his manual of plastic surgery, Dr. Zeis has attempted to elucidate, following in the footsteps of Von Walther, the passage of Celsus commencing "*Ratio curationis ejusmodi est, etc.*" This exposition was attacked by Dr. Ryba, of Prague, who insisted that the passage bore an entirely opposite meaning to that given to it by our author; an answer followed on the part of Dr. Zeis, in which many of the objections brought against the interpretation of the latter are refuted; to this Dr. Ryba has replied. In the work before us, Dr. Zeis, to prove the correctness of his own positions in relation to the true meaning of Celsus, in the chapter referred to, has presented the chapter entire, with a running commentary upon the translation of his opponent.

It is useless to notice further this controversy—it is only those who are well acquainted with the Latin that would be able to judge of the accuracy of the interpretation given by either party—nor is the subject in dispute of such magnitude as to warrant our occupying any space with its examination.

The second essay is on organic adhesions, or on the true character of the adhesions which occasionally occur congenitally or soon after birth, between surfaces which are in contact, but, in the normal state, unadherent.

Dr. Zeis, being consulted in the case of a female infant, of about three years of age,—in whom an adhesion of the vagina was discovered to exist some short time after birth, and in regard to which an experienced and skilful surgeon had decided that no operation could, with propriety, be performed until the patient should attain a greater age,—in making a close examination to ascertain the exact nature and extent of the adhesion, separated, with some degree of force, the labia, and found the adhesion to give way very readily without the necessity of resorting to instruments of any kind. He thus, by merely drawing asunder the adhering surfaces, succeeded in effecting their separation to the depth of about an inch, when a fine transparent membrane presented itself, which was readily divided by the scissors, and the opening of the vagina to its entire depth completed. On the surfaces that were separated from each other, the mucous membrane presented a rough, dull appearance, and was evidently not covered with epithelium. At the moment the adhesion was broken up, blood sprung from a multitude of minute points, and spread over the entire surface of the vagina. The hæmorrhage was not, however, extensive, and, with the simplest dressings, in a few days the parts were perfectly well.

"It is true," remarks Dr. Zeis, "that cases similar in all respects to this have already been reported by other surgeons; I am not aware, however, that any one has adduced them to point out the importance of separating such organic adhesions at the earliest possible period, when it can be readily effected without the use of cutting instruments. If the division be deferred until the child is older, the adhesion becomes more and more firm, and when, to prevent the accumulation of the menstrual blood within the uterus, its division becomes absolutely necessary, it can only be accomplished by the use of the knife. The danger attendant upon the operation is sufficiently well known—it is extremely difficult to divide with the knife the adhering surfaces upon the median line, and not to wound or even divide completely the parietes of the vagina, and even after the most successful performance of the operation, the mucous membrane of the cavity is liable to become covered with a firm unyielding cicatrix, by which the dimensions of the vagina are contracted and its full dilatation prevented."

In the case just detailed, the discharge of blood, from a number of very minute orifices, very fully proved that the opposite sides of the vagina were united by a true organic adhesion with anastomosis of the blood-vessels. Dr. Zeis has repeatedly observed a still less grade of adhesion to occur between the prepuce and glans penis, in small boys, who, at the same time, laboured under phymosis, in consequence of which they had been operated on by him. Adhesions of this kind are of not unfrequent occurrence. The separation may be usually effected by a very moderate degree of traction. In some cases there is a discharge of a small quantity of blood from a number of minute orifices—but not to as great an extent as in cases of vaginal adhesions when destroyed in the same manner. In many cases no hæmorrhage occurs, the adhesion appearing to result from a simple agglutination of the epidermis of the glans and inner surface of the prepuce. This species of adhesion Dr. Zeis has often observed in cases of hypospadias; the cohesion of the prepuce and glans being only partial, the anterior half of the glans remaining free. The epidermis on the adhering surfaces was much thinner than on those where no adhesions existed—the former being indicated, for a long time after the separation, by a reddish sharply defined spot.

With the view of determining the true character and mode of these organic adhesions, Dr. Zeis undertook a series of observations in relation to the nature and mode of union of the eyelids, in those animals who are born with the eyes closed. He found that in such the connection of the lids is effected by a layer of gelatinous matter, which is interposed between their edges, and which is gradually removed from the external surface of the lids inwards, "so that each day the fissure between their edges becomes deeper and deeper until finally their union is destroyed."

On forcibly separating the eyelids after death, Dr. Zeis found, that he had to exert a degree of force that would scarcely have been anticipated, and that the edges of the lids were evidently torn loose from each other, their adhering surface presenting, after the disruption, a rough or jagged appearance. The longer the experiment is delayed,—in other words, the nearer the time when the artificial separation of the lids is made, approaches that of their spontaneous disunion, the less force it demands, and the smoother and more polished appear the edges.

To determine whether the gelatinous substance, forming the bond of union between the lids in animals born with closed eyes, is penetrated by blood-vessels, and permits an anastomosis to take place between the capillaries of the two lids, Dr. Zeis tore open, during life, the eyes of several young dogs and cats. As it was necessary in these cases not only to disrupture the adhesion of the eyelids at their edges, but also to overcome the action of the orbicular muscle, a greater degree of force, as might be expected, was required than in the dead animals; and the degree of force required was also greater the nearer the period of birth the experiment was made. The lids were seized at some distance from their palpebral edges by means of forceps, so that any wounding of the edges by the instrument should be avoided. When the experiment was performed upon a puppy twenty hours old, the moment the edges were torn asunder they became covered with a small portion of very dark blood, but when the experiment was repeated on three other puppies, forty-eight, sixty-two, and one hundred and thirty-six hours old, no bleeding whatever occurred. In three of the animals but one eye was thus opened, and the dogs, being killed, their blood-vessels were injected with coloured size, which, although it penetrated the vessels of the capsule of the lens, indicated not the slightest trace of any vessel passing from one lid to the other. Similar experiments were repeated upon a number of kittens with precisely similar results.

It is probable, therefore, that, while before and immediately after birth, the adhesion of the lids is of a truly organic nature,—from the moment of birth begins to lose its organic character until finally the union becomes entirely destroyed.

From the facts and experiments detailed in the work before us, Dr. Zeis would appear to infer, that between parts which are subsequently intended to be and remain permanently separate, there takes place, occasionally, two kinds of adhesion, the one organic, and the other from a mere accidental agglutination of the epidermis of two surfaces naturally in contact. That of the organic adhesion, in the one case, there is no epidermal covering on either of the adherent surfaces—and the union, which at first is comparatively slight, and readily destroyed by separating the surfaces with a moderate degree of force, becomes, in time, more and more intimate and firm, until finally the separation can only be effected by a knife; while, in another form of organic adhesion, there is probably a layer of gelatinous matter interposed between the adherent surfaces, which are covered by an epidermis—and that, while the union in this case is at first firm, it becomes gradually weakened, until, at a fixed period, it is spontaneously dissolved by a process which Carus denominates *dehisence.*

The first species of organic adhesion is very generally abnormal; the second, on the other hand, is almost invariably a physiological process.

The third of Dr. Zeis's Essays is an extremely interesting one. The affection usually known as the "inverted Toe Nail," or, to translate the denomination employed by our author, "the growing of the nail into the flesh," is one, when we consider the frequency of its occurrence, and the severe suffering by which it is attended, and the impediment to the use of the foot in walking which it presents, is one of no trifling importance. Every thing, therefore, that is calculated to throw light upon its true nature and causes, and the means by which it may be most certainly and effectually remedied, becomes of interest.

By almost every writer the entire affection, the inflammation of the soft parts, their suppuration, the intensely sensible fungous granulations which shoot up from the lateral edge of the nail, and cover the greater part of the latter—together with all the attendant suffering and lameness—and which, in many cases, continue for months and years—have been ascribed to the edge of the nail pressing upon or penetrating abnormally the soft parts—either in consequence of the too great breadth of the nail, its too arched form, or the unnatural downward direction of its edge; and hence the remedy that is proposed by different surgeons is either the destruction of more or less of the nail, the changing of its form, or the drawing out of its edge from the flesh, and the preventing its again embedding itself into it. They all consider that it is the nail which is in fault, and the whole of their attention is directed to correct its abnormal action upon the soft parts.

Many of the operations proposed, even by surgeons of a very late date, are painful and cruel in the extreme, and few of them afford any other than a temporary relief, while some are calculated ultimately to increase the very evil they are intended to remove.

"If," remarks Dr. Zeis, "the cure of the affection, supposed to result from the growing of the nail into the flesh, was formerly too often attempted by the destruction of the nail, it is only since Dupuytren has counselled its entire outrooting, that the operation has been generally sanctioned and adopted. Me it has, in every instance, filled with horror, and I am happy to say that I could never be induced to perform it. I have had repeated opportunities of observing those patients who had been operated on, according to Dupuytren's method, by other physicians; and found them far from being relieved from their sufferings. Notwithstanding the offending portion of the nail had, in each case, together with its root, most certainly been torn out, as was evident from the separated portion, which they showed me, yet, they had again been supplied by the lateral growth of the remaining part of the nail, but without any connection being formed between the new growth and the matrix, so that a probe could be passed freely from its upper edge to its root. The free lateral edge of this new unattached portion kept up a constant irritation in the soft parts, and re-excited an inflammation in them, unless it was kept constantly cut short, and in such a manner as to prevent the occurrence of a thin sharp edge—by which the original affection would be liable to be reproduced. Now this repeated trimming of the nail the patient was unable properly to perform himself, but it required that he should call in, from time to time, the aid of the surgeon, if he would avoid the very suffering, for the removal of which he had already undergone a most painful operation."

In the 14th volume of Graefe and Walthers' Journal, (page 234,) the reader will find an excellent essay on the invertion of the nail, by H. S. Michaelis, in which is contained a very complete notice of the several operations proposed for its cure—and, in the same journal, (vol. xxii. p. 108,) there is a paper, by A. Sachs, on the same subject, in which the different plans of treatment that have been recommended are examined systematically.

In the medical journals, particularly those of France and England, we meet almost constantly with the recommendation of novel modes of treatment, which, however, are, in most cases, merely modifications of those that had already been proposed.

The most cruel of these operations is that described by Neret, (*Archives Générales de Méd.*, June, 1838,) who directs a spatula to be forced down beneath the nail to its root, and then carried towards the offending edge, so as to separate it fully from all its adhesions; the nail being now turned towards the opposite side of the toe, is to be torn out. Dr. Zeis very properly remarks, that the amputation of the toe would be a more gentle and preferable operation to that of Neret.

Larrey (*Clinique Chirurgicale*, 1836) recommends the nail to be divided, a short distance from the diseased edge, (one-third the breadth of the nail,) by means of a sharp-pointed scissors; the divided portion is then to be separated at its root from the skin by which it is there covered, turned back and torn out. As soon as the hæmorrhage ceases, the part from which the nail is removed is to be cauterized by a hot iron; the dressings are then to be applied and kept on fourteen days, when the lunar caustic is to be freely applied. This differs from Dupuytren's operation only in the smaller portion of the nail that is removed.

Baudens directs the knife, which is to be held in the same manner as in cutting a pen, to be applied a few lines above the root of the nail on its diseased side, and then carried down to the bone, when, with one sweep forwards, the whole of the inverted edge, together with the spongy flesh in which it is imbedded, is to be removed.

Others advise the destruction of the whole nail, or a portion of it, by the application of caustics. Thus Payan, (*Revue Méd., July*, 1840,) after covering so much of the nail as is not to be destroyed with adhesive plaster, applies to the uncovered portion a caustic composed of equal parts of caustic potass and lime. The same procedure is recommended by Barbette and Bordes, (*Journ. des Connaissances, Med. Chirurg., Nov.*, 1839—*June*, 1840,) by Albers, (*Correspondenz blatt Rhein. u. Westphäl. Aerzte*, B. 1, N. 5,) and by Moreau, (*Gaz. Méd. de Paris*, 1836, No. 52;) the latter, however, employed the caustic burnt alum, which required eighteen to twenty months to effect a cure. Labat, (*Broussais' Annales*, 1834, No. 9,) in order more rapidly to relieve the patient of his suffering, destroyed at once the root of the nail by the actual cautery, which is the treatment recommended, also, by the reviewers of Schreger's "Grundriss der Chir. Operationen," in the *Salzb. Med. Chir. Zeitung*, 1827, No, 55.

Donzel (*Essai sur l'ongle incarné, etc.*, Strasbourg, 1836) directs the skin to be dissected back from the root of the nail, and the wound to be filled with charpie; on the following day it is to be filled with *pate caustique*—the joint of the finger being first well dried and covered with adhesive plaster. After the separation of the slough, the edge of the nail, which has been laid bare, is to be removed by the scissors.

Others object to the destruction of any portion of the nail, either entirely or temporarily, and propose various procedures by which the nail may be kept from contact with the inflamed portion of the soft parts, until these have been completely healed. Sachs (*Graefe and Walther's Journ.*, vol. xxii. p. 108) directs the general health of the patient to be restored by appropriate remedies, in conjunction with a proper diet and regimen; the inflammation of the foot to be reduced by the usual antiphlogistic means; and the pus which is formed to be discharged, and at the same time the loosened edge of the nail to be removed by means of a forceps and scissors, either by a simple or V formed incision. If the swelling of the soft parts prevents this from being readily effected, a portion of compressed sponge should be introduced beneath the edge of the nail and kept there until this has been sufficiently freed from the spongy granulations by which it has become imbedded, taking care, however, at the same time, not to employ too great a degree of pressure, as this may increase the suffering of the patient. The healing of the ulceration may be promoted, after the excision of the nail, by the use of tonics.

Martin (*Recueil de Mémoires de Med. de Chir. et de Pharm. Militaires*, vol. 39, 1836,) recommends a triangular portion to be cut out of the middle of the nail, the base being at the free edge; and then the cut edges of the nail to be drawn together by means of a suture of brass wire, with the view of removing the lateral edges of the nail from contact with the inflamed portion of the toe. This operation, independently of being very painful, can afford only temporary relief, inasmuch as the constant growth of the nail will quickly counteract whatever advantage may result from the artificial reduction of its breadth.

Cooper and Burnett (*Lond. Med. and Phys. Journ.*, Ap. 1827, and Feb., 1829) simply recommend the inverted edge of the nail to be removed from the point to the root.

Other surgeons have proposed to give to the nail a less arched or flatter form, so as to prevent, in this manner, its edges from pressing inward upon the soft parts. Houlton (*Lond. Med. Repos.*, Sept., 1824) directs the nail to be shaved as thin as possible at its centre; a triangular piece of cork is then to be inserted, on each side, between the nail and the toe—whether under or above the nail is not said—and a third piece, about one-third the breadth and of the same length as the nail, upon the thinned portion of the latter, and over these a piece of adhesive plaster and a bandage, which is to be changed every three days. Biessy (*Revue Méd.*, 1830, t. ii, p. 54) shaves the whole of the nail as thin as possible, and then touches it six or eight times with lunar caustic, until it shrivels up, and its edges are, in consequence, drawn out of the soft parts. This procedure cannot fail to produce the entire destruction of the nail. Rothamel (*Zeitschrift für die Ges. Heilk, etc.*, B. 1, Hft. 1) directs the nail, for the breadth of two lines, extending from the point to the root, to be scraped as thin as possible, by means of a piece of glass. Pressure being now made upon the central portion of the nail, the edges are so far drawn up as no longer to bear upon and irritate the inflamed soft parts. The scraping of the nail is to be repeated every other day.

Pétréquin (*Archiv. de Mèd. Belge.*, March, 1841) thins the nail by means of a file, and applies pressure upon it by means of sponge and adhesive plaster; others, as Bonnet, (*Bulletin de Thérap.*, Aug., 1834,) propose to flatten the nail, and thus relieve its edges, by bandages and graduated compresses alone. Labarraque (*Gazette des Hôp.*, April, 1837) employs a thin plate of lead, bent in a particular manner, one edge of which is inserted beneath the edge of the nail. A somewhat similar plan is pursued by Lechler (*Würtemb. Med. Correspondenz blatt*, B. 8, N. 47). According to Vésignié, (*Journ. Hebd.*, N. 34–36, 1836,) the plan of Brachet consists in cutting away the soft parts; and when the nail requires to be entirely destroyed, he prefers Dupuytren's operation, in conjunction with the cautery. In the generality of cases, he merely removes the superfluous portions of the nail, and then puts on a clasp composed of a number of silver plates, which is elevated by means of a screw, and raises up with it the edges of the nail, by which means all pain is removed.

"It is not," remarks Dr. Zeis, "merely the painful and cruel character of the principal operations that have been proposed for the cure of the inverted toe nail, that renders them so disgusting to me—other operations are attended with much pain and suffering, which excite in me no such feeling. But my opposition to them is derived from the circumstance, of the whole of them being based upon erroneous principles, and their being all unadapted to afford any radical and permanent relief."

In many, though by no means in the majority of cases, the cutting the nail too short is the primary cause of the affection. The soft parts, being no longer kept down by the projecting free edge of the nail, are forced, by the pressure of the shoe or boot in walking, against and even over the truncated end of the nail, and, as this again increases in length, it may be made to even penetrate into them—giving rise thus to inflammation, swelling, ulceration and fungous granulations, with a degree of suffering, which often renders the slightest motion of the foot unbearable. The disease is most liable to occur in the great toe, in consequence of the greater amount of motion and pressure to which it is subjected in walking. The patient seeks to relieve his sufferings by constantly cutting away portions of the nail, but in so irregular and unskilful a manner as rather to increase than diminish the evil.

The disease most commonly occurs at one or other of the lateral edges of the nail of the great toe—and in this case without the nail having been cut at all. No doubt, in numerous instances, it results entirely from the soft parts being pressed by too narrow or misshapen boots or shoes against and over the sharp edge of the nail. But cases frequently occur where it cannot, with propriety, be referred to this cause. Dr. Zeis believes, that under such circumstances, its production is to be attributed to that particular constitution of the blood, which, in certain persons, predisposes to furunculi and other spontaneous local inflammations.

The inflammation once established, it is evident that the hard and sharp edge of the nail must act as a foreign body, and, by its constant irritation, keep up and aggravate the disease—giving rise to suppuration, ulceration and the production of luxuriant fungous granulations, of an intensely painful character, which rise up over the edge of the nail, and often cover it to so great an extent, that we are unable to obtain a sight of it, even by drawing them on one side. It is this that has favoured the belief, that the whole of the evil has resulted from the too great breadth of the nail causing its edges to grow into the flesh; but there occur a greater number of broad nails unconnected with the affection under consideration, than there do in connection with it.

Michaelis describes a condition of the nail, which he supposes to particularly favour its growth into the flesh. This is a very rounded form of the nail, so much so, that it resembles the half of a perfect cylinder. This condition of the nail Dr. Zeis has repeatedly observed, but not always in cases of its so called growth into the flesh; on the contrary, he has, in numerous instances, met with it in individuals who had never suffered from this affection. Even when the disease has been connected with an arched condition of the nail, it has been entirely healed without the destruction or flattening of the latter.

Dr. Zeis considers that it is all-important, in every case, to attend to the condition of the patient's general health, which, in a large number, will be found to be more or less deranged. As the patient's health improves, under an appropriate therapeutic and hygienic treatment, the affected foot being kept at rest, and the toe guarded from all pressure, either in walking or from a too narrow boot or shoe, the local disease will be found, very generally, to diminish, and, in a short time, to disappear entirely.

If, however, the disease has resulted from keeping the nail too short, the doctor considers it indispensable that it should be allowed to attain its proper length, which, with the simplest dressings, and the avoidance of motion and pressure, is sufficient to effect a perfect cure. So soon as the nail acquires the slightest projection, he is in the habit of introducing beneath it, by means of a fine probe, a small portion of charpie, and to prevent the falling out of this, he covers the end of the toe with adhesive plaster, spread upon gold-beater's skin, which adapts itself better to the parts, and produces a less amount of pressure than when it is spread on silk or linen. The toe is then to be bathed frequently, during the day, in warm water.

If the soft parts, at the point of the toe, are in so swollen a condition as to interfere with the dressing just directed, or completely to cover and conceal the edge of the nail, Dr. Zeis is in the habit of removing them by the knife.

"Even in those cases," he remarks, "in which the nail has been cut so close as to be reduced to one half its length, under the above treatment, it will require but two, or, at the furthest, three months to effect a permanent cure, and to restore to the nail its proper length and natural shape.

"Much more obstinate, however, are those cases in which the disease affects, at the same time or is entirely confined to, the side of the nail. These are, especially, the cases in which the destruction of the whole or a part of the nail has been considered indispensable to the cure. I have, however, in such, seldom failed to secure the entire and permanent relief of the patient by rest, the frequent use of the foot bath, and the removal, by the knife, of the fungous granulations or spongy and morbidly sensible flesh, by which the edge of the nail becomes covered. I will not, however, pretend to deny," he adds, "that cases of a very aggravated character may occur, in which the unhealthy condition of the ulceration, seated beneath the nail, will require the loosened edge of the nail to be cut away, that our applications may be applied directly to the ulcerated surface, and also to prevent the constant irritation which is kept up in it by the detached portion of the nail. It is never necessary to destroy the whole or any part of the nail, even under such circumstances."

The leading propositions which Dr. Zeis has attempted to establish in the essay before us, are thus summed up in the author's own words.

"1. The so called growing of the nail into the flesh, is not, excepting, perhaps, in a very few cases, the result of a too great breadth of the nail; but is caused entirely by the inflammation and intumescence of the soft parts.

"2. The arched condition of the nail, which is of frequent occurrence, is perfectly natural, and neither can nor requires to be changed by shaving away the nail and the application of pressure.

"3. It is not, therefore, to the removal of any morbid condition of the nail that the attention of the surgeon must be directed, but to the removal of the inflammation of the soft parts, the healing of any ulceration that may exist, and the destruction of the intumescence caused by the fungous flesh about the edge of the nail, which latter is best effected by cutting it away with the knife.

"4. In the treatment of the local inflammation, in the affection under consideration, the frequent use of warm pediluvia is preferable to, and more effective than most other means.

"5. In a few cases, of unfrequent occurrence, the temporary removal of the loosened edge of the nail will be required: in the majority of cases, however, even this will not be necessary.

"6. The removal or destruction of the whole or any part of the nail, is in no case required; and from its severity, and the mutilated state in which it ever after leaves the foot, should be considered as an unwarrantable practice, and one to be entirely banished from among the operations of surgery."

We have given to the essay before us an extended notice, because the frequent occurrence of the affection of which it treats, the intense suffering with which it is invariably attended, as well as the evident ignorance that exists in relation to its true character, as is evidenced by the severe and uncalled for operations which have been proposed for its removal, induce us to believe that a very full exposition should be given of the views of an author who has thrown much light upon its pathology, and presented a plan of cure as simple as it is effectual.

The views advocated by Dr. Zeis in relation to the causes of the inverted toe-nail, we have entertained for many years; and have pursued a plan of treatment very similar to that which he recommends. In no instance have we had occasion to remove any portion of the nail, though we can conceive of cases in which the cutting away of the loosened edge of the nail may be necessary, as Astley Cooper remarks, to allow of the healing of the ulceration of the soft parts, by removing the irritation which the nail constantly keeps up. The success with which this plan of treatment has been attended, in the cases that have fallen under our care, emboldens us to recommend it strongly to the notice of the profession. D. F. C.

Art. XV.—*Sicheres Heilverfahren bei dem Schnell gefährlichen Lufteintritt in die Venen und dessen gerichtsärztliche Wichtigkeit.* Von Dr. Ch. Jos. Edl. v. Wattmann, k. k. n. ö. Regierunsrathe, Leibchirurg, o. ö. Professor der praktischen Chirurgie und der ersten Chirurgischen klinik, &c. Wien, 1843. 8vo. pp. 190.

A certain Means of Preventing the Rapid Occurrence of Fatal Symptoms in cases of the Accidental Introduction of Air into the Veins, and a consideration of the Medico-Legal importance of this accident. By Ch. J. E. v. Wattmann, M. D. &c.

The author of the present treatise has hardly done himself justice in the title he has given to it. The main object of the work, it is true, is to make more generally known the means by which Dr. Wattman has succeeded in preventing, in the cases which have occurred under his notice, the immediate death that has heretofore been considered an almost certain consequence of the accidental admission of air into the veins. The author has, however, not confined himself to a mere exposition of his mode of treating this accident, but has, with no little ability, examined the whole subject in reference to its pathological, therapeutical, and medico-legal bearing. Nearly every important fact connected with the causes which favour the entrance of air into the veins during certain surgical operations, the symptoms to which such entrance gives rise, the reason of its fatal effects, and the means calculated to guard against its occurrence is presented—with an analysis, also, of the principal recorded cases in which it has occurred, and a notice of the experiments upon inferior animals that have been undertaken to elucidate its true character, prevention, and management.

The work is, in fact, a concise, but nevertheless very complete and masterly monograph upon the subject of which it treats—and one that will amply repay the surgeon for the time spent in its careful perusal.

It is divided into three parts.

The first part treats of the nature, causes, symptoms, and effects of the accidental entrance of air into the veins during surgical operations.

The rapidity with which death ensues, when no effectual means are taken to prevent the entrance of an amount of air sufficient to derange the action of the heart, is noticed; with a historical sketch of thirty-four cases of the accident, reported by different surgeons. Next follows an examination of some experiments on animals, undertaken with the view of elucidating the nature of the accident and the cause of its general fatality.

The author then enters into an examination of the evidence by which the fact of the sudden deaths occurring in certain surgical operations, being the result of the entrance of air into the veins, is positively established; the difference in the phenomena in different cases, and the causes of the more rapid death which the accident produces in men than in inferior animals are then noticed.

After showing that it is chiefly during operations about the neck, upper portion of the thorax, and the axilla that the accident has occurred, and, consequently, that it is almost invariably the result of an accidental opening of one or other of the large veins situated in those regions, and which terminate, after a short course, into the right auricle of the heart, the author examines the particular circumstances which favour the entrance of air into these veins—which are,

1. The dragging and forcible distension of the coats of the vein during the operation. By the lateral dragging of the venous coats, and the consequent enlargement of the calibre of the vessel, even small veins may be rendered, under particular pathological conditions, capable, when wounded, of admitting air into the heart—as when they are imbedded in the cellular tissue which immediately surrounds a tumour or other morbid growth. With the gradual increase of the tumour, the surrounding cellular tissue, and the veins contained in it, become distended in length and breadth; and the latter become increased in calibre, while their contraction when they are wounded is impeded or entirely prevented. In the same manner, also, the boundaries of the space, within which surgical operations endanger the admission of air into the veins, are augmented; the influence of the lateral pressure of the atmosphere being prevented in vessels that were previously fully defended by the aponeuroses of the neck.

2. The upright position of the patient during the operation. The more the space at which the operation is performed is situated above the horizontal line which marks the position of the heart, the less are the veins distended with blood, and the more readily the external air passes into them when they are wounded, while, at the same time, they are defended from the lateral pressure of the atmosphere.

3. The patency of the wounded vein in consequence of the adhesion of its circumference to tumours or aponeuroses.

4. The partial division of the vein, which allows the air to enter and pass with the blood into the heart.

5. The thickening of the coats of the vein from chronic inflammation—and

6. A morbid rigidity and ossification of the coats of the vein, by which their collapse is prevented. The undue rigidity or ossification of the venous coats

can seldom, however, of itself, be a cause of the accident under consideration; as veins so circumstanced may be readily detected during the operation, and avoided; they, also, occur but seldom: whereas, on the other hand, a morbid softening and distensibility of the venous coats may contribute to the production of the accident, from a portion of the vein being easily drawn out by the dragging, that occurs in the efforts to remove a deep-seated tumour, into a pyramidal form, the apex of which portion is in danger of being cut off by a stroke of the knife, in effecting the division of the inferior adhesions of the tumour.

7. The entire division of a vein contributes to the entrance of air into its cavity only in those cases where the central end of the divided vessel does not contract, or is stretched open by the adhesion of its external coat to surrounding parts; and it is to such cases alone that the remark of Cormack, that air, unmixed with blood, passes into the heart, will apply—in cases, however, where no cause exists to prevent the collapse of the venous coats, when a vein is entirely divided, it is immediately closed by the lateral pressure of the atmosphere, and no air can enter it.

The supposition of the larger veins being provided with a fibrous coat, as Berard asserts, but the existence of which Cormack conceives not to be demonstrated, is not necessary to explain the entrance of air into the veins.

8. The deep inspirations, which Poisseuille especially insisted upon, and to which Charles Bell and Cormack have directed particular attention, and which many other observers, with Amussat, have considered worthy of notice; and which occur either accidentally or are caused by a sense of oppression, by the constrained position of the patient or of the parts operated on, or by certain manipulations of the surgeon or of his assistants, have, it is true, only a mediate influence in favouring the entrance of air into the veins,—they nevertheless act as a very powerful auxiliary cause. Their influence is the greater, the more, during each inspiration, the capacity of the chest is augmented—and, in this manner, the entrance of the air into the large veins within the thorax is facilitated, and the amount admitted is increased.

The general phenomena by which, according to Dr. Wattmann, the entrance of air into a vein is immediately followed, are, an instant sense of faintness, preceded by an exclamation, and probably the declaration, by the patient, that he is dying or suffocating, with a feeling of the utmost oppression and a severe shivering; the faintness may occur, however, alone, and to so great an extent that the patient immediately loses all consciousness and falls to the ground. The forehead becomes covered with a cold perspiration, and, within a quarter of an hour, often sooner, death ensues. No blood flows from the opened vein during the upright position of the patient, and but very little when he is placed in a horizontal position. A clear rushing sound during the performance of an incision indicates the entrance of the air. Upon dissection, after death, air is detected in the blood-vessels, and particularly in the cavities of the heart.

We have given above a mere enumeration of the phenomena indicative of an entrance of blood into the veins—to understand them properly and derive from them the immediate knowledge of the occurrence of the accident, it will be necessary to study the detailed examination of their relative importance, which is given by our author.

The cause of the sudden death, upon the admission of air into a vein, depends, according to Dr. Wattmann, upon the progressive decrease in the activity of the heart, and of its influence upon the circulation, in consequence of the sudden over-distension of the venous system by the mixture of blood and air; the insufficient oxydation and decarbonization of the blood in the lungs; with simultaneous and equal decrease in or impediment to its electro-magnetic influence; the diminution of the exciting and nutritive qualities of the blood, and its consequent diminished capacity to maintain the functions of those parts of the brain, spinal marrow, lungs, and heart, the united actions of which are essential to life.

The second part of the present treatise is devoted to a consideration of the means by which the entrance of blood into the veins, during an operation, may be guarded against, or its deadly influence prevented.

We can merely afford space for an account of Dr. Wattmann's own plan—

which he pronounces to be certain, whenever sufficiently early reverted to. This consists in the instant closing of the orifice in the vein by which the air enters. This may be effected with most certainty and least delay, by pressing the point of the index finger upon the spot at which the last incision was made, and where the noise of the entering air is heard. The moment the finger is applied to the orifice in the vein, the hissing or rushing sound ceases. If the patient has already experienced a degree of faintness, he is to be roused by dashing cold water on his face, and by the application of the fumes of vinegar to his nostrils.

If the operation is not entirely completed, it should be finished, as soon as the patient is sufficiently recovered, without, however, the removal of the finger from the open vein. If the hand be in the way, however, of the operation, the point of a finger should be applied, by an assistant, upon the vein, between its wounded part and the heart, and then the finger may be removed from the opening, by sliding it, while gentle pressure is still made with its point, along the course of the vessel, towards the heart, as far as is necessary, in order to expose the wounded portion.

The permanent closure of the vein is to be effected, according to the size, character, and position of the vessel—either

1. By quickly uniting the lips of the wound.
2. By a ligature upon the vein, or by torsion—or,
3. By the lateral ligature, when the vessel is opened only on one side.

The 1st is sufficient in wounds without loss of substance, and when the sides are even, and can be approximated with sufficient closeness.

In those wounds with loss of substance, where the orifice in the vein can be sufficiently covered with a flap of the wounded integuments, this may be held against it with sufficient pressure to prevent the entrance of air, by means of a suitable dressing.

The ligature or torsion of the vein is indicated in those cases in which, 1st, a vein of subordinate rank—the enlarged branch of what, in the normal state, is but a small vessel, conveying the blood from parts of little importance, to the venous trunk, is either transversely or obliquely divided; or in which. 2dly. The covering of the orifice in the vein with a flap of integuments is either impossible or not to be depended on.

Where there has been considerable loss of substance in the operation, so as to prevent the full and effectual closure of the wound by the approximation of its edges—when the divided vein is an important trunk which conveys blood immediately to the heart, and the wound forms but a small opening through one side of the vein, the lateral ligature of the vessel is indicated. This consists in an accurate approximation of the inner surface of the coats of the vessel, nearest to the inner edge of the wound through its parietes, and the careful application of a ligature on the outer surface of the wounded side of the vein, so as completely to close the wound, but, at the same time, to allow sufficient space for the passage of the blood through the vessel.

The manner of performing this operation, which is one peculiar to Dr. Wattmann, the instruments demanded, and the after treatment, are all minutely laid down in the section before us. Every one who feels inclined to repeat it must study the details given by the author; but it does not fall within our plan to translate so large a portion of the work as would be necessary to render those details sufficiently clear for the use of the surgeon, and any attempt at an analysis of them would be altogether useless.

A table is appended of thirty-six cases of entrance of air into the veins, in which the name of the operator or observer is given, with the year in which each operation or observation was made, the region in which the wound occurred by which the vein was opened—the phenomena that ensued—the means that were had recourse to after the operation to prevent the fatal result—and the periods when death took place in the fatal cases. Of these thirty-six cases, in eighteen, the patients were saved, and in eighteen, death ensued. In thirteen of the recoveries, immediate compression was made upon the orifice of the wounded vein, and, in one case, compression was made upon the abdomen;

in four cases no mention is made of the means resorted to. Three of the recoveries are in cases reported by our author—two in cases reported by M. Clement, and thirteen in cases reported, respectively, by Drs. Mott, Warren, Stevens and Mussey; and MM. Pierre and Coudougnés, Rigaud, Delapert, Malgaigne, Amussat, Velpeau, Begin, Toulmouche and Mayor.

The third section of the treatise is devoted to the medico-legal questions involved in the subject under consideration. As our principal object, in the present notice of Dr. Wattmann's treatise, was to make known his views and observations in relation to the effects resulting from the accidental introduction of air into the veins, and his means for preventing the fatal result which has been found so generally to occur in such cases, we shall pass over without remark the interesting details contained in the concluding section—more especially as to do justice to them would require us to extend this notice far beyond what our limits would permit.

We recommend to our surgical readers the work of Dr. Wattmann, as one replete with observations, of a most important character, in regard to almost every important particular in regard to the nature, phenomena, and prevention of one of the most appalling occurrences to which those patients are occasionally exposed, upon whom operations are to be performed in the parts about the neck, clavicles, and axilla. D. F. C.

Art. XVI.—*Ueber eine neue Reihe Subcutaner Operationen.* Von Dr. W. Hennemann, Grossh. Mechlenburg-Schwerinschem Geheimen Medicinalrathe und Leibartze. Rostock und Schwerin, 1843: 8vo. pp. 194.

On a new series of Subcutaneous Operations. By Dr. W. Hennemann, Personal Medical Councillor, and Physician in ordinary, to the Grand Duke of Mecklenburg—Schwerinschen.

To such as feel desirous of making themselves acquainted with the character and pretensions of subcutaneous surgery, the present treatise may be recommended as a suitable manual. The author has presented a very fair history of the several subcutaneous operations that have been recommended by modern surgeons, together with an exposition of the cases to which they are adapted; of the views and experience of the most prominent of their advocates, and of the leading arguments by which their superiority, under certain circumstances, over the ordinary methods of operating, is supposed to be established.

Dr. Hennemann appears to have been himself firmly convinced of the superior advantages of subcutaneous operations, in a large number of cases, and has, in consequence, attempted to place them in the most favourable point of view, as well in regard to the greater facility of their performance, and the less amount of danger and suffering by which they are attended, as in regard to their successful termination, and the diminished extent of deformity which results from them.

Notwithstanding the examination which our author makes of the merits of subcutaneous surgery is, to a certain extent, one sided—the examination being conducted in the character of an advocate rather than in that of an impartial inquirer after truth—he, nevertheless, cannot be accused of so entire a disregard of candour as to conceal all objections that have been made to his favourite modes of operating, or to deny the difficulties by which they are occasionally surrounded, and the serious failures that have not unfrequently attended them.

His object would appear to be, rather to overturn objections than to lead his readers to suppose that none such really exist.

While we admit that the treatise of Dr. Hennemann, is one of uncommon interest, and, in many points of view, replete with valuable information, we must confess that it has failed to convince us of the propriety of subcutaneous operations, or even of their superiority over the ordinary plans of operating, in the cases even that are esteemed the most favourable for their performance. It is not to be denied, that under certain circumstances, to be able to operate without the division of the integuments, would be decidedly advantageous; but still, the serious objections to which this method of operating is liable, render the advantages that would otherwise result from it, of infinitely minor importance.

The general subject of subcutaneous surgery is discussed, by Dr. Hennemann, as introductory to a new series of operations of this class, of which he is himself the author.

After a short but excellent history of subcutaneous operations, the author describes the method of applying the subcutaneous ligature to the brachial, radial, anterior ulnar, crural, and anterior tibial arteries, as practiced by F. L. TAVIGNOT. (*L'Examinateur Médical*, Feb. 13–20, 1842.)

Dr. Hennemann concludes his examination of the subcutaneous application of ligatures to arteries, with the following general conclusions.

1. The subcutaneous ligature is practicable for a certain number of arteries.
2. In contradistinction to the ordinary method, the subcutaneous application of a ligature is more easily and certainly effected, in the living than in the dead subject.
3. The objections that have been made to the mediate ligature, in consequence of the injury that may result from the repeated introduction of the needles, even if they are well founded, form no just ground for the rejection of the subcutaneous mode of operating, inasmuch as such injury can result only in a very limited number of cases.
4. The circulation and innervation of the limb will become restored, even should the collateral veins and nerves be included in the ligature.
5. In regard to the dangers of the occurrence of mortification, in consequence of the diminished supply of blood to the limb, in cases where a principal artery is tied, this is, perhaps, as liable to take place after the subcutaneous as after the ordinary method of applying the ligature.

After some observations in regard to the application of the subcutaneous ligature, in cases of enlarged and varicose lymphatics, and in cases of rupture and varicose swellings of the veins, Dr. Hennemann presents a synopsis of M. Guerin's general summary of the subcutaneous plan of operating. We have then an enumeration of certain cases, in which it has been successfully employed by our author.

1. In the opening of bloody tumours, which occasionally form after the subcutaneous division of the larger muscles.
2. In the opening of serous pouches, which not unfrequently form after the absorption of the blood effused in cases of subcutaneous myotomy.
3. For the making of incisions in the commencement of inflammatory tumours, with a view to their dispersion. In the three cases in which Dr. H. had recourse to this operation, the inflammation and swelling were immediately removed.
4. In the opening and evacuation of a mellicerous tumour.
5. For the removal of a small exostosis from the upper and outer part of the tibia, with absorption of the fragments of the tumour, without the occurrence of the slightest inflammation.
6. For the opening of congestive abscesses on the sides, loins and back.
7. For a number of entirely new myotomic operations, which no one, without a previous acquaintance with the principles of subcutaneous surgery, would have undertaken.

The ensuing section treats of the "essential character of the practice of subcutaneous surgery."

"The end to be obtained by subcutaneous operations," Dr. H. remarks, "is the preservation of the wounded tissues, as well as the fluids effused beneath the surface, from contact with the external air—its means, the penetration of the skin, for the division of the tissues beneath it, by a simple puncture, through which the air from without cannot penetrate; and its result, the enabling of the wounded tissues to unite by the first intention, and the walls of the cysts, in which the effused fluids were contained, to become obliterated, without inflammation or decomposition of their contents."

Dr. Hennemann next describes "a new series of subcutaneous operations."

1. For the removal of ganglions. The description of the operation adapted to this end, is preceded with an interesting inquiry into the true character of these tumours, and the causes by which they are produced, in which the opinions and observations of the most authoritative modern surgeons, principally of the continent of Europe, on these points, and on their proper mode of treatment, are cursorily noticed. 2. For the removal of enlarged bursæ mucosæ, from excessive effusion, and probably a changed character of their contents. 3. For the removal of ranulæ. 4. For the cure of hydrocele. 5. For the cure of spinabifida. 6. For the dispersion of frigid, lymphatic, metastatic and congestive abscesses. 7. For fistulæ, properly so called. 8. For acute abscesses. 9. For panaritium, and 10. For *cephalæmatomia,*—the removal of the bloody tumour which occurs on the head of new-born infants—and of similar tumours on the heads of adults from accidental injuries.

The beneficial results of most of the subcutaneous operations advocated by our author, are illustrated and enforced by a number of cases which fell under the notice of Dr. Hennemann himself, or that of his colleagues, or which are selected from the writings of those surgeons by whom the new plan of operation is recommended and practised.

It would be useless to attempt a description of the plan of operating, in the several cases to which the subcutaneous method is supposed to be adapted. Independently of its extending our present notice to an unreasonable length, for no abstract would convey any useful information to our readers—there are strong doubts entertained by many, as to the propriety of this method of operating, excepting in a very limited number of cases; in many of which, it was practised long before the views of those, by whom its propriety is now advocated, were promulgated; and until these doubts are settled, the objects of this journal will be best accomplished, we are persuaded, by a simple announcement of the claims of subcutaneous surgery, and a brief notice of the leading works of which its exposition and defence constitute the leading topic.

By those who are desirous of studying "the new method," as it is repeatedly termed, in the treatise before us, with a view of testing its supposed advantages; a knowledge of the several plans of operating, must be acquired by a reference to the writings of those by whom they were originally suggested, or of some able compilation as that under consideration. D. F. C.

Art. XVII.—*Enchiridion Medicum; or the Practice of Medicine. The result of fifty years practice.* By C. W. Hufeland, Counsellor of State, Physician in Ordinary to the late King of Prussia, Professor in the University of Berlin. From the sixth German edition. Translated by Caspar Bruchausen, M. S. Revised for the proprietor by Robert Nelson, M. D. Second edition. New York, 1844. 18mo. pp. 630.

The high professional character, and the long and extensive experience of the veteran Hufeland, as well as the influence which he exercised, for many years, over the pathological and therapeutical opinions of a large portion of the physicians of Germany, and of northern Europe generally, invest with peculiar interest the several publications on medical subjects that have emanated from his pen.

The work before us, which appeared in 1836, when the author had attained his seventy-fourth year, is intended—to use, with a slight modification, the language of the author himself—as the depository into which he cast the final result of his long experience as a physician—to serve as a clinical guide for the young practitioner, and give to his mind a right direction—by pointing out the various diseases he will have to contend with—with the most approved treatment to be adopted for the cure of each; to serve him, in short, as a complete, though concise, manual, divested of all hypothesis, while it embraces all that is essential in a practical point of view.

> "Was mich das Leben gelehrt, was mir durch Leben geholfen,
> Leg'ich danbar und treu hier auf Hygieens Altar.
> Helfen durch Lehre und That was meines Lebens Bestimmung,
> Möchte im Tode auch noch Lehrer und Helfer euch Sein."

"What to me a lifetime has taught, and by which, throughout life, I have profited, I here, with gratitude and faithfulness, lay upon the altar of Hygeia, that, by the opinions and practice, which have become settled by a lifetime's experience, I may still, after my death, be a teacher and a guide to you."

As an exponent of the medical views and experience of one of the oldest and most distinguished of the German physicians of the old school, the work before us will be consulted with interest; and although we certainly cannot recommend it as a manual to initiate the student into a knowledge of the most approved views in pathology, and the best established plans of treating diseases, the practitioner may, nevertheless, derive an occasional useful hint from a study of its pages. For, while many of the pathological views of the author have become obsolete, and others must be admitted to be extremely doubtful, yet, amid a mass of observations on the character and treatment of disease, that have stood the test of fifty years experience, there will be found very many of great practical value—which, in the search after novelty, that distinguishes the labours of many of the modern cultivators of the medical sciences, have been either undervalued or entirely overlooked. There is much, indeed, of the older therapeutics, that has been repudiated in favour of more recent refinements in practice, the revival of which would be advantageous.

To the student, as well as to the practitioner, we would recommend an attentive perusal of the introductory discourse on "The Relations of the Physician" to the sick—to the public, and to his colleagues. It presents an admirable sketch of the pleasures, the duties and the pains of our profession, and is replete with sound maxims and sage advice, by which all may profit. It is, in fact, an eloquent discourse on all the leading points of medical ethicks.

It will scarcely be expected that we should enter into a discussion of the merits of the opinions and practice of Hufeland as set forth in the volume before us. These have become, in a certain sense, a part of the history of medicine. Nor could we, with any profit to our readers, present an analysis of the work; it is itself a compendium, that it would be scarcely possible to further condense. One of its greatest faults is, indeed, its conciseness. D. F. C.

Art. XVIII.—*Summary of the Transactions of the College of Physicians of Philadelphia.* March to October, 1844.

The principal articles of interest in the present No. of the Transactions of the College, are the Annual Report on the Diseases of Children, by Dr. Condie, and a case of death after parturition, caused by rupture of the uterus, by Dr. Henry Bond. This last we transfer to our pages:

April 8th, 1844. At 10 P. M. Dr. Bond was requested to visit Mrs. R——, and was informed by the messenger, that she was affected with colic. Mrs. R. had a good form and constitution, and enjoyed good health until this attack. She is 28 years of age; was married on the 4th of last October; had never menstruated after marriage; supposed that she became pregnant within one week after that event, and expected to be confined in the beginning of the second week in July. About noon to-day she was reaching over a flour barrel that stood end-wise, to pick up something behind it, in doing which she felt something give way, and was attacked with pain in that part of the abdomen where she came in contact with the sharp edge of the barrel. The pain continued all the afternoon and evening, and was supposed by her female attendants to be colic, and, in consequence, ginger-tea and other domestic remedies had been administered. But the pain became worse in the evening, and when the doctor visited her, she evidently had labour pains, but no stools or discharge; he directed her an opiate, rest and a cool regimen, with orders to send for him if she was not shortly relieved. At 11½ o'clock, P. M., he was sent for again. The pains had increased, and the os uteri had become relaxed, and more than half dilated. The pains were more distressing than usual in such cases, and she was inclined to keep her hand applied to that part of the abdomen which had come in contact with the barrel. The membranes were very strong, and continued unbroken, until a loose sac of water presented externally, and when broken, there was a gush of a large quantity of liquor amnii. The delivery of the child followed almost immediately afterwards—April 9th, at 2¼ A. M. Soon after this, he began to use the ordinary means to promote the delivery of the placenta, which he continued to do for three quarters of an hour without any effect. There was no sign of its coming—there was neither any expulsive pain, nor the least appearance of any coloured discharge. He then gave twenty grains of ergot, and after a quarter of an hour, twenty grains more. At the end of ten or fifteen minutes more, no uterine contraction had occurred,—at least he discovered none, either by questioning the patient or by watching her motions.

The uterus was so low that he could easily pass his finger within its neck, which was soft and relaxed; but above that, the uterus seemed to have assumed something like an hour-glass contraction, so low down towards the neck, as to embrace in the upper chamber nearly or quite all of the placenta. He immediately prepared to introduce his hand, without waiting longer for the ergot to act. The cord was ten inches long, very large, and firm for that period of gestation, except for a short distance near its insertion into the placenta, where it was very slender. In his attempts to examine the condition of the uterus and to deliver the placenta, the cord was torn from its attachment. This occurred only a short time before the introduction of the hand. The *os externum* and the *os cervix uteri* were so relaxed, that the hand passed with ease until it reached the above-mentioned contraction. This was so rigid as to occasion some delay. During the process of introducing the hand, pretty strong uterine contraction came on, which increased the delay. Whether this was the effect of the ergot, or of the irritation of the hand, is doubtful;—probably it was partly owing to each. Upon passing the hand through the stricture, into the chamber containing the placenta, it was found that this was detached from the uterus in no part, so far as could be perceived. Up to this period there was no sanguineous discharge, except a very little, which was supposed to proceed from the separation of the cord. The doctor proceeded slowly and carefully to detach the placenta, which adhered so firmly as to make the operation tedious. After the whole of the placenta was separated, he found a strong membranous attachment to one part of the fundus, which he could not overcome. It was of limited extent, being less than an inch. He used as strong traction as he thought could be done without endangering a laceration of the uterus. When pulling it, it seemed to yield a little, but, upon examination, there was no sign of its being detached. It occurred to him that, possibly, there might be an hour-glass contraction, embracing a small part of the placenta and membranes, although he could perceive no rounded edge and depression around the adhesion such as he should expect in that case; but to determine this, he applied the other hand to the abdomen, and this examination entirely satisfied him that such could not be the case. He then separated the placenta from this adhering membrane, and withdrew it. The membrane, which felt like a ligament, had such remarkable strength, that the separation was not easily accomplished. The operation occupied three quarters of an hour, and was attended with very little hemorrhage.

The child lived twelve hours. The fœtal end of the cord, as before observed, was very thick, and he tied it, as he thought, very carefully; but in a little while he discovered that, in proportion to the size of the child, there was considerable hemorrhage, such as might have destroyed it, had it not been discovered and arrested. It had not, however, produced any signs of anæmia.

10*th.* Last evening the patient began to be uneasy and feverish,—a cathartic of senna, manna and sulphate of magnesiæ, in divided doses, was directed. It operated sufficiently during the night, but the febrile symptoms and uneasiness were not mitigated. Tongue a little coated—pulse 110 to 120—some tenderness in the left iliac region—the uneasiness in the head increased. In the afternoon, the symptoms all aggravated—no lochial discharge. Directed the neutral mixture—v. s. oz. xxiv—fomentations. The blood drawn exhibited a thick buffy coat and small cupped coagulum.

11*th*. Head much relieved since the v. s., but the patient had a very uncomfortable night—tongue has a yellowish white coat, thickest in the middle—had a severe chill this morning at 7 o'clock—pulse 120 to 130. After the application of the fomentation, a copious sanguinous discharge from the vagina came on, which it was thought desirable to promote, therefore the v. s. was not repeated nor leeches resorted to this morning as would otherwise have been done. Directed cal. ipecac. and opium. At 5 P.M., pulse 102; at 11 P.M., 82—all the symptoms mitigated. The pain in the abdomen, last night and to-day, which was almost entirely confined to the iliac region, was intermittent like after pains.

12*th*. In the morning, found her more comfortable in every respect—pulse 80 to 90. No tympanitis or swelling of the abdomen, and the tenderness is chiefly confined to the part before-mentioned—sanguineous discharge has ceased, and the vaginal discharge has become offensive—some confusion of the head in the night and this morning. When visited at 5 P.M. the patient was found to have become worse soon after the morning visit—great increase of febrile excitement and of tenderness of the abdomen—thirst great—began to be tympanitic. Upon examination, found some shreds of membrane in the neck of the uterus, which were removed; one part, however, extended into the uterus, which could easily be seized hold of, but adhered too firmly to be extracted without applying more force than could be done with safety. Sometime afterward it came away and the offensive discharge ceased.

13*th*. She began in the night to belch up whatever she drank—pulse very variable—tympanitis increasing, as well as the distress and tenderness in the abdomen. Dr. Meigs saw the patient twice to-day, but it is unnecessary to detail the treatment, which had no influence in controlling the disease. The discharges from the stomach became more and more dark, until they closely resembled coffee grounds. The patient grew rapidly worse, and died next morning, April 14th, at 4 A. M. about 98 hours after delivery.

Autopsy, 29 hours after death. The operation was performed by Dr. Goddard, in the presence of Drs. Huston and Bond; and this account of it is chiefly taken from Dr. Goddard's notes. Abdomen alone examined. On opening the peritoneal cavity, a quantity of fœtid gas escaped, which occurrence Dr. G. observed he had never met with, except in cases of perforation of the intestines, or as a result of putrefactive fermentation. That part of the peritoneum, where this gas was contained, was dry and glossy, as if it had been hung up in the open air—colon much distended and very low in the abdomen. Upon carefully raising the omentum majus, the whole of which was gangrenous and fœtid, a black mass, about two inches long and three quarters of an inch wide, was brought into view, one end of which passed into an opening in the fundus of the uterus. At first view this looked like a coagulum of blood, which in some parts had began to be organized, but which, being drawn out and washed, proved to be a portion of the fœtal membranes, with some remains of placental fibres, and the debris of a coagulum of blood—the whole being in an advanced state of putrefaction. The uterus was next examined, and found to be lacerated at the left extremity of the fundus, above and very near the junction of the Fallopian tube. The rupture in the peritoneum was small—about three-fourths of an inch in length, and entirely filled up by the membrane before alluded to. The laceration of the proper substance of the uterus was greater, and its edges were covered with a coagulum partially organized. The *lining of the uterine cavity elsewhere looked well.* The peritoneum showed traces of high inflammation in several parts—about the stomach, among the small intestines and especially at the pelvic region, but appearing comparatively healthy at the anterior portions of the abdomen. There was very little effusion into the peritoneal cavity—there was a small quantity of blackish fluid, with flakes of pus floating in it, in the most dependent portions of the abdominal cavity.

There is, therefore, reason to believe that, when the laceration took place, it was chiefly in the uterine substance, the peritoneum resisting; that the unbroken membranes protruded, like a hernia, through the aperture into the abdominal cavity;—that the contraction of the uterus, after the delivery of the child, closed so firmly upon these, as to strangulate them, and to resist the efforts to withdraw them, during the operation for extracting the placenta. This examination explains the difficulty attendant upon the delivery of the secundines; for although the placenta was in no part detached from the uterus when the hand was first introduced, still there did not appear to be any preternatural adhesion or growing of the placenta to the uterus; but the chief difficulty arose from the extraordinary strength of the fœtal membranes, and their inextricable confinement. The revelations of this examination, were especially gratifying to the doctor, as he had apprehensions before this, that although the labour was brought on by an accident, the febrile and inflammatory symptoms and the fatal termination, might have been the consequence of the operation of extraction; although he had proceeded with such caution, that he was satisfied it could have resulted only from the irritation of the protracted operation, and not from any laceration, or other violence done to the part.

Art. XIX.—*Lectures on the more Important Eruptive Fevers, Hemorrhages, and Dropsies, and on Gout and Rheumatism.* Delivered in the University of Pennsylvania. By N. Chapman, M. D., Prof. of the Theory and Practice of Medicine, &c. &c. Philadelphia, Lea & Blanchard, 1844: pp. 448, 8vo.

The present volume of lectures, by the distinguished Professor of the Practice of Medicine in the University of Pennsylvania, is not less interesting than the one which preceded it, (see No. of this Journal for April last,) and will be equally acceptable to the profession. The topics discussed, are the more important eruptive fevers, hemorrhages, and dropsies, with gout and rheumatism.

The author treats, under the head of exanthematous fevers, of small-pox, (natural and inoculated,) chicken-pox, cow-pox, varioloid, measles, and scarlet fever; under that of hemorrhages, of hæmoptysis, epistaxis, hæmatemesis, hæmaturia, uterine hemorrhage, hemorrhoids, cutaneous hemorrhage, and purpura hæmorrhagica; under that of dropsies, of ascites, encysted dropsy, ovarian dropsy, dropsy of the chest, dropsy of pericardium, hydrocephalus, (acute, subacute, and chronic,) and anasarca; and finally, we have two very important diseases of the muscular or fibrous system, gout and rheumatism, in all their various forms, fully described.

Those who examine these volumes, with an expectation of finding in them a catalogue of every remedy that has ever been tried for the cure of each disease —of every suggestion of the tyros in the profession, ambitious of gaining a temporary notoriety by connecting their name with some pretended novelty in therapeutics, or long since repudiated article of the materia medica, will find them deficient. But, in our estimation, they possess a higher order of merit. They embody the results of the long and extensive experience of one acknowledged to possess remarkable tact in diagnosis, copious resources as a practitioner, and to be unusually happy in selecting the remedy best adapted to the circumstances of each individual case. The practitioner of medicine will know how to value these volumes.

SUMMARY

OF THE

IMPROVEMENTS AND DISCOVERIES

IN THE

MEDICAL SCIENCES.

ANATOMY AND PHYSIOLOGY.

1. *Colouration of the Blood.*—(*L'Experience*, 4 July, 1844.)—M. Scheerer is led by his experiments to refer the difference in colour between venous and arterial blood to the different refractions of light produced by the different forms of the corpuscles; their form being biconcave in arterial blood, and spherical or biconvex in venous blood. The microscope shows, that oxygen and the neutral salts, in producing the bright red colour of the blood, cause the blood-globules to assume a biconcave form; whilst water and carbonic acid, which render the blood dark, also cause the blood-globules to assume a spherical or biconvex form.

2. *Researches on the Structure of the Uterus.*—A recent No. of the "*Journal de Chirurgie*" contains an account of some interesting researches on the anatomy of the uterus, by M. Jobert de Lamballe.—M. Jobert's inferences from his researches are as follows:

1st. The proper tissue of the uterus is not fibrous yellow tissue, but muscular tissue, and that at all periods of life, and in all animals.

2d. In pregnancy the uterus is merely in a state of muscular hypertrophy.

3d. The uterus is formed by one muscle and not by several.

4th. There exists an uterine mucous membrane, but without epithelium.

5th. The direction of the uterine fibres shows how they act in freeing the uterus from its contents. The longitudinal layer of fibres, which originates at the fundus and is inserted into the neck and vagina, tends to diminish the length of the uterus; whilst the semicircular fibres by their action diminish its cavity in every sense. The longitudinal and annular fibres of the Fallopian tube explain the mode of progression of the product of conception, and those which surround the uterine vessels appear to diminish, by their contraction, the rapidity of the circulation, and to prevent hæmorrhage during parturition.

The fibres of the single muscle, which forms the uterus, are arranged, according to M. Jobert, in layers, and present the following direction:

The longitudinal superficial fibres, which may be called median from their position, are seldom seen on the anterior surface, but are constantly met with on the posterior, where they constitute two thin superincumbent layers.

1st. Posteriorly, they begin at the fundus of the uterus, and end at the uterine exremity of the vagina, to which they become attached, with the exception of some few that terminate on the neck, above the opening of the vulvo-uterine canal. They adhere by one surface to the peritoneum, by the other to the oblique fibres.

2d. The anterior superficial fibres do not pass along the entire extent of the uterine parietes, but cross each other before they arrive at the round ligament of the opposite side. Some contribute to form it, whereas others pass behind, and terminate on the lateral regions, where they cross also those of the posterior region.

3d. There are other superficial fibres, only evident during pregnancy, which are destined to the Fallopian tubes and to the ovarian ligaments. Some originate at the fundus of the uterus, unite to those which contribute to form the Fallopian tubes, and pass on to the anterior part of the ovarian ligament. Others, more numerous, originate from the posterior surface of the fundus of the uterus, and pass on to the same ligament. Lastly, a few transversal fibres from the posterior surface form its inferior part. The numerous fibres which pass on to the Fallopian tubes originate at the fundus of the uterus, and form a thick fasciculus, which divides into two secondary fasciculi destined one to the ovarian ligament, the other, more voluminous, to the Fallopian tube. Some fibres separate from the common fasciculus, and lose themselves in the cellular tissue which separates the Fallopian tubes from the round ligament.

The deep fibres are very visible when the uterus has undergone rather lengthened boiling. They all evidently present a semi-circular direction, are rather oblique, and only differ from those above described by their smallness, and by their belonging exclusively to the body and to the neck of the uterus. They cross each other on the median line anteriorly and posteriorly, as also on the sides, so as to produce a kind of net-work. Their thickness varies as they approximate the internal surface of the uterus, where they appear to describe circles exterior to the internal membrane. There are annular fibres along the Fallopian tubes, which do not entirely encircle it and are deep-seated. Lastly, the blood-vessels are encircled by fibres similar to the deep muscular layer which surrounds the intestinal canal.

The uterine neck is formed by fibres which constitute semicircles, and decussate without mingling. This semi-circular arrangement is more evident in women who have had children than in others. Do the fibres of the neck mingle with those of the superior portion of the vagina? It has appeared to me that the vagina attaches itself to the proper substance where the mucous membrane passes from the neck itself to the os tincæ. This insertion terminates abruptly anteriorly; posteriorly, on the contrary, it is continuous in every case with the longitudinal fasciculus.

3. *On the Products of the Oxidation of Protein in the Animal Organism.* By M. Mulder.—As the purely chemical details of this long and interesting paper would prove of little value to any but a chemist, we confine ourselves to the important conclusions which M. Mulder draws from them.

When fibrin is boiled in water in contact with atmospheric air, oxygen is absorbed in quantities proportioned to the duration of the ebullition, so that at length the whole of the fibrin is converted into an oxide of protein. It follows from this that when meat is boiled or roasted, the nourishment is not introduced into the organism in the state of protein, but in that of two of its oxides, one the binoxide, being hard and insoluble, the other in the state of the soluble tritoxide. "These two substances," says Mulder, "are both absorbed from the digestive tube unchanged in composition." The tritoxide, or the portion rendered soluble by combination with oxygen, exists in the extract, or soup, of meat. As albumen does not undergo the same changes by ebullition, a tritoxide only being formed, an essential difference exists between giving roast or boiled meat and coagulated albumen as nourishment.

In inflammation, the blood contains a large quantity of the binoxides and tritoxides of protein. The substance which M. Bouchardat detected in the fibrin of blood, and named epidermose, characterized by insolubility in diluted hydrochloric acid, is, M. Mulder states, composed of the binoxide of protein. In fact, M. Scherer has remarked, that fibrin in contact with oxygen absorbs a quantity of that gas, not replaced by an equivalent proportion of carbonic acid gas. He has also remarked, that the fibrin of arterial blood, the inflammatory crust, that obtained by beating blood with a stick, that dried in the air, or macerated in alcohol, do not dissolve in the weak solution of muriatic acid; that, consequently, they consist of the binoxide of protein. In all these, therefore, the protein has become richer in oxygen than when it existed in the state of fibrin. It results from this, that protein may become hyperoxygenated while circulating with the blood. M. Mulder thinks it likely this oxygenation during life is confined to the fibrin alone, and does not extend to the albumen, seeing that when the albumen is boiled, it only forms a tritoxide, but no binoxide. These oxides of protein are found in the healthy blood at all times, but are in much larger proportion during inflammation. The hæmatosin of the blood is not, therefore, the only oxygen carrier, seeing that the fibrin at the lungs is converted into the binoxide of protein, (or epidermose of Bouchardat,) and into the tritoxide, (or gelatin of Bouchardat.) As these principles exist in inflammatory blood in much larger proportions than in healthy blood, it follows that the blood, during inflammation, contains more oxygen, and that a greater amount of oxygen is consumed. It would appear, from M. Mulder's and M. Bouchardat's researches, that it is the tritoxide (or gelatin) which is procured from the fibrin in largest quantities during inflammation; and, as Mulder's researches show that albumen is as easily resolved into this substance by boiling as fibrin itself, it seems to be a just conclusion that, during inflammation, this tritoxide is formed from albumen as well as fibrin.

All remedies which are intended to subdue inflammation must, therefore, act by tending to diminish the quantity or prevent the formation of the oxy-protein; and the known antiphlogistics undoubtedly act in this way. Blood-letting, by directly diminishing the quantity of the oxy-protein, acts as an antiphlogistic. Purgatives act in the same way, by increasing the secretions into the digestive tube.

M. Mulder thinks that the presence of these oxides of protein in arterial blood explains how the large amount of oxygen absorbed from the air may be disposed of—an amount quite disproportioned to that of the hæmatosin, supposed, till now, to be the sole oxygen carrier. These oxides of protein are carried by the circulation to the extreme parts, and there, in the act of secretion or nutrition, deposit their oxygen, which unites with matters already existing in the body, and forms the carbonic acid given off during expiration. Further experiments must determine whether, after this, the protein returns by the veins as fibrin or albumen. If the oxides of protein, once formed, do not, in circulation, resume the forms of fibrin or albumen, then they will serve for the formation of the cellular tissue, of the tendons, of cartilage, of the corneous system, &c., whilst the unchanged fibrin and albumen will contribute to the formation of muscle. In this case the functions of the lungs and liver will be to eliminate from the body those substances taken as aliment which do not furnish protein or its oxides.—*Edinb. Med. and Surg. Journ.*, Oct., 1844, from *Annalen der Chem. und Pharm.*, vol. xlvii.

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4. *On the Causes which determine the Sex in Generation.*—Many facts have tended to prove that, in the act of generation, it is the individual who is the strongest who regulates the sex of the progeny. M. Moreau, from long observation, has not only arrived at this conclusion, but thinks that, to a certain extent, a boy or a girl may be got at will by weakening or strengthening the father or mother previous to the act of generation. M. Moreau states that, acting on this rule, he has seen in numerous cases his advice followed by the desired effect.—*Ibid.* from *L'Expérience*, 4 July, 1844.

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5. *Influence of Heat and of Stoves on Animal Life.*—The experiments of M. Magendie have demonstrated that the temperature of no animal is capable of being increased beyond 9° Fahr., whatever be the temperature of the air or fluid to which it may be exposed. Thus two rabbits, whose natural temperature is 102° Fahr., were severally placed in stoves, the one heated to the temperature of 140°, the other to that of 212°. After a short while the temperature of both rabbits rose to 111°, that which was in the hottest stove being the first to attain that temperature. In none of his experiments did they ever acquire

more than 9° of heat. The same occurred with birds. When the animal acquires this temperature it soon dies; in which case the arterial blood is black as the venous blood, does not redden on exposure to the air, and has lost its coagulability.

The increase of temperature seemed to be attained chiefly through the skin, for when the head of an animal was confined in the heated stove, so that it breathed the hot air, the elevation of temperature was much less in an equal period of time than when the body was exposed to the heated air, and the head was out of the stove. Thus, a dog whose body was within the stove, but the head out, lived only 22 minutes; but another, whose head was within the heated stove, and the body out, lived 40 minutes. An animal placed in a dry heated stove loses weight, but the amount is proportioned to the length of time the animal remains within it, and not to the degree of heat, and the loss is no greater at a temperature of 212° than at 140° in an equal space of time. In stoves heated with moist air, M. Magendie, on the other hand, found, that instead of losing weight they often gained weight. He found, however, that stoves with heated moist air were borne with greater difficulty than those with hot dry air, the animals dying in them in a much shorter time.—*Ibid.* from *Ibid.*, 27 June, 1844.

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6. *Researches on Alimentary Substances.*—MM. Bernard and Barreswil ascertained that, by injecting various aliments dissolved in gastric fluid into the veins of animals, they could ascertain their comparative nutritive powers. If the substance was capable of being assimilated, they found that it disappeared entirely from the blood, and could not be detected in the secretions, but that if it was not assimilated, it was passed off by the secretions, as by the urine. They found, that if alimentary substances were injected into the veins without having previously undergone artificial digestion in gastric fluid, they were not assimilated, but were passed off in their original state by the urine. When alimentary substances were mixed with gastric fluid, and artificially digested for a few hours previous to being injected into the veins, they were found to be assimilated as perfectly and as completely as if they had been introduced into the stomach. The first series of the experiments are alone as yet published. They refer to sugar, albumen, and gelatin.

Aqueous solutions of sugar, of albumen, and of gelatin from isinglass were injected severally into the jugular veins of three dogs. After three hours the urine of each dog was examined. In that of the first dog the sugar was found unchanged; in that of the second, the albumen was quite distinct; and in that of the third, the ordinary reagents manifested the presence of gelatin.

Similar quantities of these three substances were then digested at a blood heat, for about six hours, with recent gastric fluid taken from the stomach of a dog, and were then severally injected into the veins of three dogs. The urine was drawn from the bladders, and examined after three hours. In the urine of the dog which got the sugar, no trace of sugar could be detected. In the urine of that one which got the albumen, no trace of albumen was perceived. But in that of the dog which had the gelatin, that substance was found present in appreciable quantity.

Three dogs were then fed for some time with these substances; one with sugar alone, the second with albumen alone and the third with gelatin. The sugar and albumen could never be detected in the urine, but the gelatine was so invariably.

In order to test these last results still more accurately, MM. Bernard and Barreswil repeated them on themselves. After fasting they took sugar, but never could detect its presence in the urine. In a similar manner they took albumen, but it also could not be detected in the urine. When, however, they took gelatine, they always found that it was thrown off along with the urine.

May not this last fact explain why gelatin has been found experimentally not to contribute to nutrition?—*Ibid.*, fom *Journ. de Pharmacie*, June, 1844.

7. *Researches concerning the Importance of Bile in the living Animal Organism.*—We are indebted to Prof. SCHWANN for an account of some interesting experiments, instituted for the purpose of ascertaining whether the bile is really essential to life. These were so conducted as to allow that fluid to flow out of the body without ever getting into the bowel. The means employed was ligature of the ductus choledochus.

The author contends that the experiments of Brodie, Tiedemann, and Gmelin, Leuret and Lassaigne, are of no physiological value as regards the present inquiry; inasmuch as if the ductus choledochus be simply tied, not only is ingress of bile into the bowel prevented, but the secretion is likewise stopped. Now the secretion may serve a double end in the animal economy; first, to remove certain matters from the blood; second, to elaborate a fluid destined, like the gastric juice, to exercise some peculiar action upon the nutriment. That the bile contributes to effect a change in the composition of the blood cannot be denied. Accordingly, if the depurative process performed by the liver be arrested, death must follow as surely as after ligature of the ureters.

To obviate the above difficulty, the author, while he applied the ligature, formed at the same time a fistula of the gall-bladder, having its external opening in the abdominal integument. Under such circumstances, if death ensued, it must be from absence of bile within the bowel, for the secretion is permitted to go on without interruption: those cases, of course, being excepted where a fatal termination has been the immediate result of the operation.

The following important practical inferences may be drawn from Prof. S.'s experiments. Out of 18 dogs whose ductus choledochus was tied, and fistula of the gall-bladder at the same time formed, two alone survived. In both, when killed, the ductus choledochus was found re-established. Of the other 16, ten died in consequence of the operation. In the remaining 6 death could not be assigned to that cause, but only to absence of bile in the intestinal tube. It may be, therefore, concluded that the bile is of vital import; that the liver does not merely serve, through the biliary secretion, to carry off certain effete matters from the blood, but that it at the same time elaborates a fluid essential to the animal economy. This is borne out, not only by a consideration of the six cases where the animals died without any other appreciable cause, but, likewise, of those in which the duct became restored and the dogs lived. There the emaciation continued up to a certain period, no doubt that of the re-establishment of the ductus choledochus; in one, symptoms of marasmus supervened exactly resembling those in dogs dying from want of bile, but which completely disappeared on the integrity of the conduit being regained. The ten cases in which another cause of death was discovered cannot be received in evidence, as it is probable that the privation of bile partly contributed to shorten life. This must be taken into account in every instance where an animal outlives the operation three days, as the effects of absence of bile are already appreciable before that date; if wasting occur earlier, it is probably the direct effect of the operation.

Death takes place even when the dogs lap and swallow the effluent bile; it cannot, therefore, be reckoned a substitute for that which, in the natural course of things, passes into the duodenum. On the other hand, the ingested bile did not seem to impair digestion.

Young dogs die as well as old ones, and probably sooner; thus, one died in seven days; and one, although eventually saved by reproduction of the biliary canal, manifested by the tenth day those marked symptoms of faulty nutrition which do not usually show themselves till a later period.

Death takes place amid symptoms of inanition or defective assimilation,—emaciation, muscular weakness, tottering gait, falling out of the hair; and these are the more prominent the longer life is prolonged after the operation.

There is considerable variation as to the period at which animals die from want of bile; thus, one young dog died within seven days, and another not before two months and a half had elapsed. It would appear, as a general rule, that adult dogs perish from want of bile in from two to three weeks after the operation. Now it is known that dogs can live for nearly a month without any kind of nourishment. (*Müller's Physiology*, Bd. I., p. 477.)

In order to account for those cases in which, after the animals had apparently recovered, there was a renewal of the emaciation, and death, it may be assumed that at some advanced period, in consequence of local injury by a blow or leap, the newly-formed texture has been ruptured, leading to inflammatory exudation within, and closure of, the previously pervious canal, whereby the supply of bile has been cut off.

The following is the author's summary of results:—

1st. The bile is not a mere excrementitious matter, but is, after being secreted, of vital necessity.

2d. Bile is alike indispensable to young and old animals; indeed, the former seem to bear its want less than the latter.

3d. When the bile does not get into the bowel, its absence is generally perceptible in dogs by diminution of weight about the third day.

4th. When the bile is prevented from reaching the bowel, adult dogs usually die after two or three weeks, sometimes earlier.

5th. Death is preceded, as above stated, by signs of deficient nourishment, great wasting, muscular debility, falling out of the hair, together with slight convulsions during the agony.

6th. The bile which naturally flows into the duodenum cannot be replaced by that which the animals lap and take into the stomach.

7th. The bile so swallowed does not seem to interfere with the process of digestion.

The author proposes to extend his experiments, with the view of ascertaining whether the efficacy of the bile depends upon its being a solvent of certain articles of nutriment.—*London Med. Gaz.*, Aug., 1844, from *Müller's Archiv.*, 1844, No. 2.

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8. *Gunshot Wound of the Anterior Cerebral Lobes.*—Dr. Blaquiere, of Mexico, in a communication to the French Academy of Sciences, gives the details of a gunshot wound, involving the anterior cerebral lobes, which presented considerable physiological interest. A child playing with a loaded pistol accidentally discharged it. The ball struck his younger brother, four years and a half old; entered at one temporal region, came out at the other, and finally spent itself against the wall of the room. For six-and-twenty days after the accident, the child retained the entire control of its intellectual faculties. The memory and judgment were not in the least impaired; the child was as gay as before the accident, had appetite for food and slept tolerably well. The wounds were both situated about an inch and a half below the external commissures of the eyes. On the twenty-sixth day, symptoms of cerebral inflammation appeared, and the child died on the twenty-ninth. On examination, the anterior and superior region of the two hemispheres was found to have been traversed by the ball. The ventricles were intact. The entire sinus was the seat of suppuration; the meninges were inflamed. M. Blaquière considers this case to be fatal to phrenological doctrines, as the seat of several important phrenological faculties was destroyed, and yet no functional lesion whatever of the brain was observed.—*Comptes Rendus.*

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9. *Researches on the Chemical Composition of the Pulmonary Parenchyma and of Tubercles.*—These researches were undertaken by M. Felix Boudet, a well-informed chemist, in order to ascertain, if possible, the relation which exists between the normal composition of the lungs, and its pathological composition, when the seat of tubercles. According to M. Boudet, the parenchyma of the lungs, freed as much as possible from blood and extraneous substances, is formed of the following chemical elements:—1st, a substance susceptible of transformation into gelatin by ebullition in water, (cellular tissue;) 2d, a substance soluble in cold water, precipitated by nitric acid, coagulated by heat, containing albumen and hematosin; 3d, a substance analogous to casein; 4th,

fibrin; 5th, free oleic and margaric acids; 6th, oleate and margarate of soda; 7th, cerebric acid; 8th, lactic acid; 9th, cholesterine, $\frac{5}{1000}$ of the weight of the lungs dried at 100°; 10th, water, the weight of which is to that of the substance of the lungs dried at 100° : : 82 : 18. In other words, the lungs dried at 100° are reduced to one-fifth of their primitive weight. The ashes of the lungs contain a considerable quantity of chloride and sulphate of soda, a small quantity of phosphate and carbonate of lime, and traces of silex and of oxide of iron.

If this analysis be compared with those which Berzelius and Braconnot made of muscular tissue, the difference will be found to be slight, and to have reference, principally, to the presence in the lung of several fatty acids, free, or combined with soda, and to the presence of cholesterine, and of a substance soluble in boiling alcohol, precipitated by cold—viz., cerebric acid. These differences are not very important, unless it be proved that they are constant and inherent to the nature of the tissues analyzed. Nevertheless, it is clear that the parenchyma of the lungs contains a considerable proportion of fatty substances, and more especially of cholesterine, which does not exist in muscular tissue.

The results of M. Boudet's analysis of pulmonary tubercles are confirmatory of the previous analyses of Wood and Preuss. Pulmonary tubercles contain, according to him,—1st, albumen; 2d, casein; 3d, a substance presenting the characters of fibrin; 4th, a substance soluble in boiling alcohol, (cerebric acid;) 5th, oleic and margaric acids; 6th, saponified fat; 7th, lactic acid; 8th, lactate of soda; 9th, cholesterine, 0.045, or $\frac{1}{20}$th of the weight of the dry tubercles. The ashes, like those of the lungs, contained soluble salts; chloride of sodium and sulphate of soda; insoluble salts; phosphate and carbonate of lime; silex and oxide of iron.

The composition of mesenteric tubercles, as also that of the tubercles of the bronchial glands, was the same.

The most remarkable fact demonstrated by the above analysis, is the large quantity of cholesterine which tubercles contain. This substance is also found in biliary calculi, in tumours of the brain and of the uterus, in ovarian cysts, and in most of the pathological productions developed in the parenchyma of our organs, thus showing a kind of analogy between the composition of pathological productions.

The development of an excess of fatty matter in the organization is also remarkable, when we consider that the physiological function of the fatty substances which exist in the blood appears to be to contribute to the production of animal heat, by the slow combustion of the carbon which they contain, and to become converted into carbonic acid during respiration. This being the case, it is easy to understand how imperfection in the respiration may coincide with an excess of fatty matter in the organization. The fatty state of the liver in many patients labouring under phthisis is worth noticing, in connection with these ideas. The following is the analysis of the liver thus degenerated, as compared with the healthy liver:—

	Fatty liver.		Healthy liver.
Water, - - - - - - - -	55.15	...	76.39
Animal matter, dried at 100°, - - - -	13.32	...	21.00
Saponified fat, - - - - - - -	30.20	...	1.60
Cholesterine, - - - - - - -	1.33	...	0.17

M. Boudet has comprised in his researches the composition of tubercular matter in its subsequent transformations. When softened, it presents an alkaline re-action; treated by water, it gives a dissolution partly coagulable by heat. After the separation of the albumen, there remains a liquid which is precipitated by acetic acid, like milk, and which, evaporated at a mild heat, gives rise to the formation of pellicles similar to those which form on milk. In order to fully ascertain the identity of this substance with the casein of milk, M. Boudet precipitated comparatively, by acetic acid, a certain quantity of cow's milk, and of the liquid obtained from tubercles. The two precipitates, placed in contact with carbonate of barytes, in order to saturate the excess of acid, and subsequently with water, gave two liquids perfectly similar in all their properties. Calcareous tubercles present a composition very similar to that of the residue of the combustion of tubercles themselves. They contain, however, but a small proportion of phosphate and carbonate of lime, whereas they present 70 per cent. of soluble salts; chloride of sodium, phosphate and sulphate of soda. It is rather singular that a mass of soluble salts should thus remain insoluble in an organ abundantly supplied with fluids.

In one of the lungs examined by M. Boudet, he found a considerable quantity of copper, enough to form a small button. The patient was a man sixty years of age, and stated, in the hospital register, to be an engineer.

M. Desportes remarked, that too much importance ought not to be placed, without farther research, on the chemical theories promulgated by M. Boudet. It must not be forgotten, that the formation of fat in the human economy was never greater than when all the functions were in perfect health, especially that of respiration—as, for instance, in children. In phthisis, the deposit of fat was by no means general, but confined to some few parenchymatous structures.—*Lancet*, Nov. 16th, 1844.

MATERIA MEDICA AND PHARMACY.

10. *Cotton as a Dressing to Blisters.*—Prof. Seidlitz employs carded cotton as a dressing to blisters in order to produce their rapid cicatrization. He first evacuates the serum, and then covers the part with a layer of cotton, which he allows to remain until the cure is accomplished.—*Journ. de Med. et de Chirurg.*, Aug., 1844, from *Petersburger Journal Fuer Natur und Heilkunde.*

11. *Mode of preparing the Valerianate of Zinc.* By M. Devay. (*Gaz. Méd. de Paris*, June 29, 1844.)—The fresh roots of valerian are distilled, when the valerianic acid comes over along with the essential oil. This oil is separated, and the distilled water has its acid saturated by carbonate of potash. Solution of caustic potash is also agitated with the essential oil, and both fluids are mixed together. The valerianate of potash not being volatile, allows the most of the water to be driven off, as well as that portion of the volatile oil which has not united with the alkali. When the valerianate of potash is sufficiently concentrated, it is introduced into a small retort, and a sufficient quantity of dilute sulphuric added to unite with the potash. Heat is then carefully applied, and the volatile valerianic acid distils over in a pure state, partly dissolved in a small quantity of water, partly as an oily hydrate. It is then mixed with carbonate of zinc, and the union aided by heat. It is then filtered, and as the fluid cools the crystals of the valerianate of zinc are deposited. The mother liquor is to be evaporated till all the salt is obtained.

12. *Croton Oil Plaster.*—M. Bouchardat recommends the following method of preparing croton oil plaster. Melt eighty parts of gum diachylon plaster at a very gentle fire, and, when it is semi-liquid, mix with it twenty parts of croton oil. The plaster which results is to be spread thickly on muslin. It will produce considerable irritation of the skin, and may be employed in all cases where revulsives are required. It does not cause such severe pain as many other counter-irritants; and it may be applied over an extensive surface, so that a derivative action may be established proportional to the irritation which is to be combated,—an indispensable condition in the employment of these heroic remedies. M. Bouchardat is fully of opinion that the croton oil plaster will be found available in the treatment of many chronic diseases, both of the respiratory apparatus, and of the abdominal viscera.—*Annuaire de Thérapeutique*, 1844.

13. *Lithontriptic action of the Gastric Juice.*—M. Millot has stated that the gastric juice, even when diluted with an equal portion of distilled water, possesses the property of disintegrating vesical calculi, so as to render them capable of being crushed by the slightest effort or pressure of the finger, by effecting the solution of the cement of organic matter which unites the layers of the calculus. M. Leroy d'Etiolles observes, that a similar idea was put forth by Sennebier in his translation of Spallanzani's work, when treating of digestion; he has ascertained that this liquid has no action on the calculi of oxalate of lime, scarcely any on those of uric acid, and very slight on those of phosphate of lime, magnesia, and ammonia. He has not observed any effects worthy of notice except upon the alternating calculi.

These effects are thus explained by M. Bouchardat:—The organic matter which cements the calculi of oxalate of lime and uric acid, is generally mucus which is not modified by gastric juice. The alternating calculi, on the contrary, having almost all been deposited in a diseased bladder, an albuminous substance is combined with the mucus, and this is attacked by the gastric juice, so that the layers of the alternating calculi separate with facility. Setting aside, therefore, the great difficulty that would be experienced in obtaining sufficient quantities of gastric juice, the effects to be expected from it are limited and equivocal. But M. Bouchardat adds, he is convinced that the question of lithontriptics, although at present but little advanced, is yet capable of a fortunate solution, and he hopes in a future Annuaire to return to this subject.—*Bouchardat, Annuaire de Thérapeutique*, 1844.

[The late Prof. Dorsey, of the University of Pennsylvania, in his inaugural thesis, published in 1802, relates several experiments instituted with the view of determining the solvent power of the gastric juice on calculi in the bladder. He was led to believe that this power was so feeble that the stone progressed almost as fast as the solution, and that its use would not supersede the necessity for an operation.]

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14. *Cortex Frangulæ.*—Dr. Gumprecht, of Hamburg, has lately directed attention to this remedy. He observes, that it was known to the ancients as a valuable cathartic, and that Mathiolus advised the non-employment of the fresh bark on account of its great tendency to excite vomiting. Dr. Gumprecht's attention was first drawn to this remedy by the exceedingly happy cures which he saw effected with a nostrum, (the active principle of which was found to consist of the *rhamnus frangula*,) in hæmorrhoidal complaints. Dr. G. has now administered this remedy for twelve years, with very favourable results, in chronic abdominal complaints, particularly when combined with venous plethora and habitual obstruction of the bowels. The remedy invariably occasions copious evacuations, at the same time that it displays very powerful diuretic effects. It is best suited to such individuals as suffer from habitual constipation: (Dr. G. has proved this in his own person for the last ten years.) He employs the dried bark of the old tree, in the form of decoction, and asserts that it has no drastic nor heating effects, but, on the contrary, it occasions soft and moderate evacuations. The ancients generally administered it combined with aromatic substances. Dr. G. orders an ounce and a half of the dried bark to be boiled in two pints of water for two hours. When boiled down to one pint, the decoction is infused on three or four drachms of orange peel, and three drachms of pounded caraway seeds. In some cases, an ounce or an ounce and a half of Epsom salts may be dissolved in the decoction. In hæmorrhoidal complaints he substitutes two drachms of *milfoil*, with three drachms of caraway seeds, for the orange peel; and generally orders a cupful to be taken in the evening. By the next morning two or three free evacuations ordinarily ensue. Should this not be the case, the same dose is repeated at eleven o'clock, A.M. A smaller dose must be given to individuals of irritable and feeble habits, or to those who have a tendency to diarrhœa. In abdominal complaints, Dr. G. employs the *decoct. frangul.* for from three to six weeks; in habitual obstruction two or three cupfuls are given during the week. This decoction may be preserved for a very

long time without losing its efficacy, in well-stopped earthen-ware jugs.—*Med. Times*, Oct. 12, 1844, from *Buchner's Repertorium.*

15. *Mode of preparing some Narcotic Extracts in small quantities.* By M. SCHEIDEMANDEL.—Dry the herb, as, for instance, *hyoscyamus*, in a stove, at a moderate heat, and then powder. Put about four ounces of the coarse powder into a glass funnel, loosely stopped at the lower end with cotton; place over the powder a piece of white filtering paper, and upon the paper a layer of well washed sand, previously purified by muriatic acid. Pour alcohol, of 30 per cent., gradually into the funnel till the powder is partly moistened. Then cease, and, in half an hour, you will see that the liquid has slowly penetrated the whole mass, and the alcoholic solution will fall in the form of dark green drops into the vessel, over which the funnel is placed. When the dropping ceases, begin again instilling small quantities of alcohol, about half an ounce every quarter of an hour, and proceed as above till you have used eighteen ounces. Cover over the solution with a glass plate for the night, and begin next morning by infusing pure water, continuing till the liquid, which passes off, is no longer green, but brown; that is to say, till all the alcoholic solution has become exhausted, and nothing but a watery extract remains. As soon as you perceive this change, substitute a new vessel for the one containing the alcoholic extract. Continue during the day with the watery infusion, till the dripping fluid commences to be transparent; then pass through a small quantity more of spirit, and cover it over for the night. The alcoholic extract is now to be filtered and distilled in Gundermann's small steam apparatus, until a few ounces only of alcohol remain. Then put the beautifully green and thickish alcoholic extract, which results, into a porcelain dish, together with the watery extract, reduced to the consistence of syrup, and evaporate the whole at a gentle heat by the spirit lamp. Thus, an extract will be obtained, perfectly soluble in water, of a beautifully green colour, and certainly unsurpassed in efficacy by any extract prepared by other methods. The same process may be adopted in the preparation of *extr. belladonn, digital, conii, &c.* From four ounces of coarsely powdered hyoscyamus I obtained one ounce and six drachms of extracts.—*Ibid. from Ib.*

16. *On a New Method of making Medicated Tinctures.*—Dr. H. BURTON describes in the *Lond. Med. Gaz.*, (Aug. 30, 1844,) a method for making medicated tinctures, which seems to have advantages, not only over the old process, but also over the more recent French one of percolation. In the ordinary process of making tinctures, maceration and filtration are both necessary, which cause both loss of time and a waste of spirit. By Dr. Burton's process, maceration and filtration are simultaneously conducted; the solid being loosely packed in a bag, which is suspended just under the surface of the solvent, so that all parts of it are immersed, and a space left between its lowermost end and the bottom of the macerating vessel. In this process no shaking or stirring is requisite;—"as soon as the spirit begins to act on the solid, a coloured tincture will be seen to gravitate through the colourless and lighter spirit by which it is surrounded. In proportion to the rapidity with which the heavier tincture gravitates, a corresponding bulk of lighter spirit ascends, and is carried or forced into contact with the solid suspended at its surface. Thus, in a short time, a descending and ascending current will be established throughout the fluid, and will continue to move as long as the solid contains any soluble extract, or until the solvent has become saturated, and incapable of dissolving an additional quantity."

One of the best illustrations of this process, the author observes, is afforded by the phenomena which may be observed during the making of tincture of kino, with the proportion of ingredients directed in the London Pharmacopœia; a brief description of which will serve as an explanation of this new application of a principle long familiar to scientific chemists.

Take, for example, 126 grains of kino, in small fragments or coarse powder, and inclose them loosely in a calico bag, large enough to contain as much again, and secure the mouth of it with a fine string. Next choose a glass bottle, stoppered, with a wide mouth capable of holding four fluid ounces of spirit, and pour into it three fluid ounces of spiritus rectificatus, having a specific gravity of 0.838 at 60°. Then suspend the bag of kino by its string, attached to the neck of the bottle, just below the surface of the spirit, and close the bottle.

The bottle should be left at rest, and almost as soon as the kino is immersed its dissolution commences; in proof of which a bright red stream of tincture begins to descend, and for a short time remains at the bottom of the bottle, distinct from the colourless spirit above and around it; but in the course of a few hours the red stratum will have increased in thickness, and eventually ascended to the upper surface.

The tincture of kino thus produced will be perfectly clear, and its physical properties at the end of three or four days will correspond precisely with a tincture made with kino of the same quality, and spirit of equal density, mixed in the same proportions, and macerated together in a bottle for the space of fourteen days, according to the old method.

"Fine flannel or calico," Dr. B. says, "will answer the purpose of a filtering bag very well; and in this the dry solids should be loosely packed, so as to allow space enough for their expansion on being immersed in the spirit, and for the circulation of the latter through them."

The same plan may be followed in making infusions; but the macerating bag should be open as the coffee-biggin, and the boiling water poured on the solids to be infused in a vessel having a spout through which the infusion may be found when cold.

17. *Caroub of Judea in Asthmatic affections.*—The caroub is an accidental production like the gall-nut, resulting from the puncture of the pistacia terebinthus by an insect named aphis pistacia. It forms a species of capsule, the parietes of which are about the thickness of the head of poppies. It has an aromatic odour, and a resinous taste. It has been used for the last thirty years by the physicians of Vienna in the treatment of asthma, catarrh, bronchorrhœa, &c., and was first introduced into use by Dr. Wertheim. Dr. Hoffman, in a pamphlet lately addressed to the French Academy of Sciences, states, that he has found it principally beneficial in the treatment of patients of a nervous and lymphatic constitution, and in the early stage of the disease. M. Martin Solon, in his report to the Academy on the above-named paper, states, that the article is similar to the resinous and balsamic medicines in general use, and thinks that it may be usefully substituted for them, owing to its agreeable flavour. He says that the best way to use it is in fumigations, dry or moist.

MEDICAL PATHOLOGY AND THERAPEUTICS, AND PRACTICAL MEDICINE.

18. *Results of Observations on Small-pox in persons who had been vaccinated.*—These observations were made by Dr. Lossette, in the small-pox ward of the great hospital at Milan. Dr. L. first endeavoured to ascertain whether there was any relation between the vaccine cicatrix and its preservative power. With that view, having examined 420 subjects affected with small-pox after vaccination, he classed the cicatrices which they had in three orders, according to their physical characters: 1st, normal; 2d, imperfect; 3d, very imperfect cicatrices. In these 420, 231 had normal cicatrices, 124 incomplete, and 65 only very incomplete. From this it appears that the most regular cicatrices were far from constituting the most certain guarantee against an attack of small-pox.

But does a normal vaccine cicatrix render the consecutive small-pox less confluent? The following table answers this question in the negative.

Eruption.	Confluent.	Discrete.	Very Discrete.	Total.
Cicatrix normal	83	91	57	231
" incomplete	53	49	22	134
" very incomplete	18	28	19	65
				420

Nor do the number of vaccine pustules offer any assurance of protection, as will be seen from the following table:

Eruption.	Confluent.	Discrete.	Very Discrete.	Total.
One cicatrix	30	30	16	76
Two cicatrices	36	35	22	93
Three cicatrices	40	38	20	98
Four and more cicatrices	48	65	40	153
				420

Does the liability to an attack of small-pox, after vaccination, result from the preservative power of the virus having become enfeebled by its successive transmissions? or to the prophylactic powers of this virus, being but temporary and limited to a certain number of years? Dr. L. adopts the latter explanation, and adduces, in its support, the following statistics of 1411 patients, observed in 1837 and 1838, all affected with small-pox.

Patients under 5 years of age	130
" from 5 to 10	101
10 " 15	151
15 " 20	203
20 " 25	282
25 " 30	216
30 " 35	160
35 " 40	68
	1411

If we consider that all these patients have been vaccinated in early life, and also the smaller number of individuals who attain the age of thirty years, these statistics would favour the view of Dr. Lossette, of the utility of revaccination.—*Gaz. Méd. de Paris*, May 11, 1844, from *Annali Univ. di Med.*, 1844.

19. *Nitrate of Silver in Chronic Diarrhœa.*—Drs. Bertini and Bellingiere, in obstinate diarrhœa and dysentery, have found great advantage from the use of enemata and of crystalized nitrate of silver. These enemata are prepared by dissolving half a grain of nitrate of silver in half a pint of water. The patient should retain the enema for some hours. If necessary, the dose of nitrate of silver may be increased to three grains for each enema.—*Terza Statistica Nosologica, &c.*, 1843, p. 37, quoted in *Annales de Thérapeutique*, Nov., 1843.

20. *Balsam of Copaiba in Chronic Bronchitis.*—The balsam of copaiba is a favourite remedy of Dr. Bellingiere, physician to the Turin Hospital, in chronic bronchitis. Prof. Bertini also attaches great value to it in the same disease.—*Ibid.*

21. *The uses of Pure Tannin.* By Robert Druitt, Esq.—In any case in which a vegetable astringent is indicated, Mr. Druitt believes that the tannin ought to have the preference. A simple solution of it, in distilled water, he says, is much more easily and quickly prepared, as well as much more elegant, than the ordinary decoctions or infusions of oak-bark, catechu, &c.; moreover, it may be prepared of uniform strength, and free from foreign inert matter, and is not liable to decompose quickly; in fact, it has all the advantages which the

other simple vegetable principles have over crude preparations from the herbs or extracts in which they are contained.

The cases in which Mr. D. has employed it, are sore nipples, excoriations about the anus and scrotum, piles, leucorrhœa, atonic phagedenic sores, toothache, aphthous sores in the mouth, severe salivation and relaxed sore throat.

For *sore nipples* especially, Mr. D. has found it "invaluable." Every accoucheur knows what a source of wretchedness and illness these are to the young mother, and how difficult it often is to find a decisive remedy; but Mr. D. has never been disappointed in the use of tannin, except once, in a neglected case, with deep irritable cracks, for which it was necessary to use the lunar caustic. The form in which he employed it, is a solution of five grains in an ounce of distilled water; this is applied to the nipple on lint, covered with oiled silk.

For the itching excoriations about the anus and scrotum, which so much infest old men, he has used it with benefit, but prefers lemon juice as a local application. For piles, with mucous discharge, he has also found it of use, but he cannot say much on this point from his own experience.

"In one or two cases of lingering atonic phagedena," says Mr. D., "I have found it of some service, sprinkled thickly on the sore; but more particularly so in those aphthous ulcers which sometimes occur in the mouths of adults, from acidity of the stomach, and congestion of the liver. I may say that I believe it the best possible remedy for severe salivation, and for all cases of relaxed sore-throat attended with superabundance of mucus. It coagulates the mucus and enables the patient to get rid of it easily. Of course I do not use it to the exclusion of constitutional remedies; but of all the local means of making the mouth *comfortable*, I believe it to be the best.

"But of all the cases for which it is adapted, that common troublesome complaint, toothache, is that in which I believe it is most to be depended on. For this piece of useful knowledge I am indebted to my friend Mr. Tomes, and I have tested it by ample personal experience. It will often be found, as Mr. Tomes told me, that the gum around a carious tooth is in a spungy, flabby condition; a little piece of it, perhaps, growing into the cavity. The ache, too, is often quite as much in the gum as in the tooth itself. But, be this as it may, when the tooth aches, let the patient wash out the mouth thoroughly with a solution of carbonate of soda in warm water; let the gum around the tooth, or between it and its neighbours, be scarified with a *fine* lancet; then let a little bit of cotton wool, imbued with a solution of a scruple of tannin, and five grains of mastich, in two drachms of æther, be put into the cavity, and if the ache is to be cured at all, this plan will put an end to it in nine cases out of ten. I think that practitioners are to blame in not paying more attention to the cure of toothache; I am convinced that, in most cases, it is as curable as a colic or a pleurisy; the chief points being to open the bowels, and put the secretions of the mouth in a healthy state, and to apply some gentle astringent and defensative to the diseased tooth, till it is capable of being stopped by some metallic substance. I say emphatically a *fine* lancet, because the coarse, round, blunted tools that are generally sold under the name of gum-lancets, only bruise the gum, and cause horrible pain. The lancet which I use is sickle-shaped, cutting on both edges and finely ground; and if guarded with the middle finger of the right hand, it may be used in the case of the most unruly children, without any possible ill result."—*Prov. Med. and Surg. Journ.*, Oct. 9, 1844.

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22. *On the Causes of Albuminuria.*—M. Fourcault, observing that suppression of the cutaneous exhalations was one of the fruitful sources of all diseases in every climate, and finding that the same morbid phenomena were manifested when the cutaneous secretion was suppressed in animals, by means of impervious coverings, was led to study the nature of these diseases. An alteration in the nature of the blood, sometimes dissolution of its organic elements, alterations of the secretions, deposits in various organs, local lesions, vascular engorgements like those which occur in tropical fevers, or in some of the severer ones of milder climates, were the usual symptoms produced by suppression of the

cutaneous transpiration. When the suppression was sudden, the disease was more severe; when more slow, the malady assumed a chronic form.

With regard to albuminuria, M. Fourcault determined, by actual experiment, that the disease could easily be produced by suppressing the cutaneous transpiration. In dogs, this disease was induced by covering the skin with an impermeable covering; and also by removing the skin, and then applying the impermeable covering.

Endeavouring to ascertain the material cause of this effect of the impermeable covering, M. Fourcault supposes that it is the excess of lactic acid which is then found in the blood, which reacts on the albumen, and gives rise to the production of albuminuria. Scrofula, tubercular deposits, caries, chronic thickening of the cellular tissue of infants, elephantiasis, lepra, phlegmasia dolens, &c., are all referred by the author to the same cause.

The following are some of the conclusions which he draws from all his observations. 1. The artificial suppression of the cutaneous exhalation gives rise to five orders of phenomena,—a complete alteration of the blood,—a marked lowering of the temperature,—increased secretions and effusions of different kinds,—local lesions and vascular engorgements,—alterations in the nature of the urinary secretion,—and lastly, albuminuria, which, however, can also, though very rarely, originate from a primary affection of the kidneys.

2. The introduction of the lactate of soda into the veins produces albuminuria, by favouring the excess of lactic acid in the blood.

3. When the acid secretion of the skin is suddenly stopped, it produces a marked change in the organic elements of the blood. This alteration is remarked in Asiatic cholera, in plague, yellow fever, and in some of the severer diseases of temperate regions.

4. When this secretion is gradually suppressed, a number of chronic diseases are produced, among which is remarked albuminuria.—*Comptes Rendus des Sc. de l'Acad. des Sci.*, 5th May, 1844.

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23. *Researches on Albuminuria.*—Dr. Meyer, of Tubingen, from researches into the cause of albuminuria, has arrived at the conclusion, that it may be produced by an accumulation of blood in the kidneys, without any organic alteration of the structure of these organs; and that this accumulation is produced either by too large a quantity being carried there by the arteries, or by a partial stagnation taking place in the veins. In this way he accounts for the occurrence of albumen in the urine, in diseases of the heart and lungs. These conclusions were supported by five direct experiments he made on animals. In some he diminished the calibre of the renal veins, or of the cava, by means of ligatures put loosely around the vessels; in others, he tied the abdominal aorta below the origin of the renal arteries. In all these cases the urine became albuminous.—*Edin. Med. and Surg. Journ.*, Oct., 1844, from *Archiv. fur Phys. Heilkunde*, January, 1844.

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24. *On the Pathology and Treatment of the Morbus Brightii, and various forms of Anæmia.* By G. O. Rees, M. D. (*Lond. Med. Gaz.*, Aug., 1844.)—The object of this paper is to direct attention to certain diseased conditions of the blood, in which a deficiency of hæmatosine is the leading characteristic, and to consider how far such morbid states may be regarded as identical with albuminæria in their humoral relations. "The increased quantity of water," Dr. Rees observes, "circulating in earlier stages of the morbus Brightii is no doubt caused by the discharge of albumen with the urine taking place as a constant symptom. Thus the liquor sanguinis is deprived of one of its most important constituents, and the watery condition induced will go on to the production of that secondary state in which the absence of hæmatosine from the blood becomes the leading feature of the disease. This change from the one state to the other is well known by the following analysis made upon blood drawn from patients suffering under the morbus Brightii; the first at an early, the second at an advanced stage of the disorder.

	1.	2.	Health.
Water,	805·71	853·11	792·20
Solid matters of serum,	85·56	81·28	87·85
Fibrin and corpuscles,	108·73	65·61	119·95

"The decrease in the proportion of hæmatosine observed in persons who have lost large quantities of blood, and in anæmia from other causes, may, I am inclined to believe, be correctly explained on the same principle that applies to the above cases, and it is not difficult to understand how the antecedent condition, consisting in a loss of proper density on the part of the liquor sanguinis, is brought about.

"When large quantities of blood have been lost, the remainder of the circulating fluid absorbs water in order to maintain its bulk. The dry skin and extreme thirst observed in patients who have suffered from large losses of blood are doubtless indications of the necessity of supplying a sufficient bulk of fluid to afford the heart a stimulus to contraction; but when these cases have passed through the first dangers of hæmorrhage, the anæmia which follows cannot be regarded merely as the effect of dilution of the blood, for a cause exists in that fluid which interferes with the development of the corpuscle, and keeps up the anæmiated condition."

In cases of violent flooding, Dr. Lever has often observed the thirst abated by frequently sponging the body with water, and Dr. Rees thinks there can be little doubt of the advantage of this mode of treatment, not only as a means of allaying thirst, but of saving life; "for an increase," he says, "in the degree of rapidity with which water is absorbed during violent hæmorrhages may make that difference in the condition of the heart which turns the scale of life in favour of the patient; nor do we possess a better means of introducing large quantities of fluid into the blood than by applying it to the extensive surface of the skin; and the stomach, as is frequently the case, may be too irritable to receive liquids. The after-treatment of these cases, as indicated by theory, would consist in the exhibition of saline purgatives and meat diet, with the use of ferruginous tonic medicines to assist in the formation of chyle rich in an element necessary to the formation of hæmatosine.

"The efficacy of this plan of treatment has been long appreciated by practitioners, and its adoption is one among the many instances our profession affords of the discovery of practical truth as the result of lengthened and tedious experience, and without the assistance to be derived from physiology and pathology, which sciences, had they participated in the elucidation, would have enhanced the value of the fact, by enabling us to deduce general principles of treatment from the knowledge obtained, and have suggested important analogies not otherwise presentable to the imagination."

The various forms of anæmia which attract the attention of the practitioner, in many of which no very obvious cause for pallor can be ascertained, will frequently admit of explanation, Dr. R. considers, "if the principles above noticed be kept in mind, and inquiry made into all the possible causes which can produce a decrease in the specific gravity of the liquor sanguinis. It would appear," says Dr. Rees, "that this decrease admits of being brought about in one of three possible ways: 1st, by removal of one or more solid constituents from the blood; 2dly, by inactivity on the part of the exhalents, the skin, lungs, and kidney, which will so derange the balance between the ingested and exhaled fluids as to leave an excess of fluid in the blood; and 3dly, by an increase of the absorbent action of the skin.

"The first of these conditions is present in the morbus Brightii, while in cases of anæmia caused by excessive loss of blood, the first and third conditions exist. The latter, however, though tending to produce anæmia, in all probability merely takes place in order to preserve life; and we are not yet in possession of sufficient facts to enable us to decide how far it may exist in any other cases either as an accessory or sole cause of anæmia.

"If we examine the histories of anæmial cases, we frequently discover that large quantities of the solid matters of the blood have escaped from the system in the form of leucorrhœal discharge, when the whole phenomena of the disease are explicable (at least so far as the pallor is concerned) on those principles which apply to the morbus Brightii. In other cases a difficulty exists in detecting any such cause for anæmia, and in those I am inclined to believe in the existence of the second condition above mentioned; and that the changes productive of anæmia have occurred in consequence of the exhalent power of the skin having become impaired.

"These cases are generally characterized by a weak pulse, the skin being peculiarly flaccid, and the surface cool, while large quantities of water pass off by the kidneys. A stimulating diet, ferruginous tonics, tepid baths, and cutaneous frictions, are here particularly indicated, and rapidly produce their beneficial effects.

"There is another class of anæmial cases, which, though seldom seen, are still sufficiently common to deserve attention; these constitute, in fact, a form of the morbus Brightii, but as they occur in young females slightly advanced beyond the age of puberty, and are accompanied by amenorrhœa, frequently escape detection, and are treated as chlorosis, while a more favourable prospect of recovery is entertained than would be the case were the true nature of the disease known to the practitioner.

"The long continuance of anæmia in young girls who have never suffered loss of blood, and in patients affected with morbus Brightii, who have never passed red corpuscles in quantity with their urine, are facts which, when considered in connection with the analysis of the blood in such cases, sufficiently show that the disease may be produced by an imperfection in those processes which are necessary to the genesis of the blood corpuscles. That this imperfection consists in a loss of the normal relation between the specific gravities of the liquor sanguinis and chyle, is but a necessary deduction from what we know concerning the chemical and physical conditions of these two fluids; for it is positively certain that the chyle, being of less specific gravity than the liquor sanguinis, must, as it passes into the venous system, act upon the red corpuscles so as to enter them freely; and it is equally certain that the nearer the liquor sanguinis approaches to the chyle in specific gravity, the greater will be the difficulty in supplying this ferruginous ingredient for the production of red colouring matter within the corpuscles. This being admitted, we must not forget that the anæmia caused by the positive abstraction of blood in large quantities, the bulk of which is supplied to the system by an absorption of water, is a diseased state greatly aggravated by the difficulty which must be experienced by the reproduction of red colouring matter, owing to the approach of chyle and liquor sanguinis to the same specific gravity; and our remedies should be chosen, as in other cases of anæmia, with this view. The water should be removed by purging, nutritious diet enjoined, and iron freely administered."

Dr. Rees finally notices a mechanical condition influencing this degree of pallor, and which forms an important element in the production of anæmia. "It consists in a change in the form of the corpuscles, producing a thickening of their edges as seen under the microscope, and exactly resembling a state always to be produced artificially by the addition of dilute saline solutions to the blood after removal from the body." This Dr. R. has frequently observed in the blood of anæmiated girls, and "it is doubtless caused by entrance of the too dilute liquor sanguinis into the globule at the commencement of the degeneration, rendering the form of the corpuscles such as greatly to interfere with their circulation through the capillaries, and thus contributing to the production of the pallor. As the disease advances, the corpuscles, however, are frequently observed pale and flaccid, the balance having been effected between the contents of the corpuscle and the liquor in which they float. In this stage, however, if the skin fail to discharge its function, or if blood be lost from the system, we must expect that the corpuscle will again become thickened, as, under these circumstances, the state of stasis is disturbed, and the liquor sanguinis will again enter freely, owing to its having become further degenerated by the addition of water."

Dr. Rees recommends the adoption of the same "plan of treatment in the early stages of the morbus Brightii that is found efficacious in chlorosis and the anæmia produced by hemorrhage, viz., chalybeate tonics, saline purgatives, and nutritious diet; being satisfied of the value of the plan, which, though not immediately calculated to remove the congested condition of the kidney known to exist in the complaint, is still of efficacy in preserving the normal state of the blood, and may thus fairly be considered as assisting in recovery. It will be obvious, from what has been stated above, that the removal of nephritic congestion should not be effected by bleeding in any form, inasmuch as it tends to produce the condition of blood which it is desirable to avoid, as a forerunner of the secondary evils of the morbus Brightii. Counter-irritation and dry cupping are the most desirable methods of relieving the kidney."

25. *Deaths from Small-Pox after vaccination in London.*—A number of deaths from small-pox reported after vaccination having occurred lately in the metropolis, a letter was addressed by the Registrar-General to the several metropolitan district Registrars, requesting information upon the particular cases that were entered in such terms. The Registrar-General submitted the following queries to the district officers. 1st. When was the vaccination performed? 2d. By whom was it performed, and was it seen afterwards, and did the medical man say that it had taken effect? 3d. Was there any mark left on the arm? 4th. State the name and address of the medical man who attended the patient in his last illness.

The answers to these queries having been duly received, they were forwarded to Dr. Gregory, Physician to the Small-pox Hospital, for his examination; and his conclusions in regard to them have been published from the General Register Office. Dr. Gregory says:

"I have carefully perused the details of thirty-four cases of small-pox proving fatal after alleged vaccination, which you have done me the honour to submit to me, and beg to offer the following short commentary upon them."

He then goes over each case seriatim, and gives the following summary:—

Cases incorrectly registered,	11
Cases too doubtful to be made matters of inquiry,	8
Undoubted cases of fatal small-pox after vaccination, in the adult,	5
Cases of small-pox fatal in early life after vaccination,	10
Total,	34

The deaths of five adults after vaccination afford no scope for special comment. Similar cases have been recorded in all countries for many years past. But the deaths of ten children after vaccination is a new feature in the history of the disease, and therefore demands a special investigation.

"The ages of these ten children are as follows: 1 of 9 years, 1 of 8, 2 of 6, 1 of 5, 3 of 4, 1 of 3, 1 of six months.

"2. In all these cases the evidence of prior vaccination was such as to justify the Registrar in recording them as cases of fatal small-pox after vaccination.

"3. These children were vaccinated in different localities, showing that the source of the vaccine imperfection was not local.

"4. The respectability of the vaccinators, and the appearance of scars in eight of the recorded cases, forbid the assumption of entire irregularity in the vaccine process.

"5. How are these cases to be explained? Are we to suppose that the virus employed in these vaccinations was less energetic than that which was formerly in use; or is it that some change has taken place in the human constitution in the course of the last half century? It is unquestionable that such a series of cases occurring forty-four years ago would have had a material influence on the fate of vaccination. Now, with our ample experience of the benefits of vaccination, the fear is lest these cases should fail to attract that attention which may lead to ulterior benefit.

"6. In reasoning on these cases, it should be borne in mind that they are the first of the kind which have been brought before the notice of medical men. Similar occurrences may have taken place, but they have attracted no attention either here or abroad. No corresponding cases have been recorded in any of the quarterly reports transmitted from the provincial Registrars of England and Wales. Nothing parallel to them has occurred in the experience of the Small-pox Hospital. The earliest stage at which small-pox has there been observed to prove fatal is fourteen years, though several instances of the disease in a milder form have occurred at earlier dates.

"7. These considerations afford ground for supposing that lymph of an imperfect quality had been used in some, at least, of these instances. Whether this supposition be well or ill founded, whether it applies to the lymph now in use, or otherwise, may be doubted, but the occurrence of ten fatal cases among children in the metropolis in the short space of a few months demands the especial attention of all who are engaged in the practice of vaccination. It behoves them, as well for their own credit as for the credit of vaccination, to be extremely careful in the selection of vaccine lymph, and to be distrustful of the result wherever the course of the vaccine process has been irregular.

"8. These cases suggest the necessity of enforcing by law a medical certificate of the cause of death in every case of registry. With such a precaution, the irregularities in the register of deaths, already adverted to, never could have occurred. I feel assured that the medical profession throughout England would willingly co-operate in such a design if the legislature should think fit to ordain it.

"9. These cases further impress me with the great importance of restricting the number of those to whom the parochial system of vaccination (enjoined by the Vaccination Extension Act) is entrusted. I speak after twenty-two years' experience in the practice of vaccination; and I know that the choice of effective lymph requires much tact and discrimination, and that, except at vaccine stations, where considerable numbers congregate, such choice cannot be had, nor such knowledge acquired."—*Lond. Med. Gaz.*, Sept. 20, 1844.

26. *Valerianate of Zinc in Nervous Affections.* (*Gaz. Méd. de Paris*, 29 June, 1844.)—Dr. Devay, from numerous trials of the valerianate of zinc in neuralgic affections, has satisfied himself that it is a remedy of considerable powers, and deserves to be more generally employed. It appears, however, from the cases he has recorded, that its curative powers are confined to purely nervous affections. Its therapeutic virtues have been powerfully manifested in the nervous affections which accompany chlorosis, in tic douloureux, not depending upon an organic cause, in hemicrania, and even in some cases of satyriasis and epilepsy. It seems to act as a powerful antispasmodic, combining the powers of valerian and zinc. The dose is half a grain, two, three, or four times a day.

27. *Singular Case of Encephalitis.* By Dr. Guiseppe Perini.—The subject of this case was a Milanese lady, aged 15, previously in the enjoyment of the best health. She had menstruated twice, and at the time of the attack was within eight days of her third period. For some time previously she had been annoyed with shooting pains, noise in the ears, and nocturnal cramps. Sometimes, also, the movements of the limbs had not responded to the will; bright flashes had appeared before her eyes, and her usually tranquil slumbers had been disturbed with dreams. In the month of April of the past year, while at her dinner, she was seized with an irresistible desire to yawn, but it did not prevent her from finishing her meal, which she took as usual with appetite. But speedily the yawns became more frequent and continuous, till at length there was an incessant opening and shutting of the jaws, accompanied with a feeling of anxiety and distress, as if the yawns were not sufficiently frequent or deep to give relief. Loss of vision next came on, and accompanied the continual yawning, and this was succeeded by delirium, all in the space of twenty-four hours. When seen by the author, the following was her condition:—A previous bleeding had re-

moved the delirium;—she was seated, pale and exhausted-looking on her bed, the body inclined forwards, and yawned incessantly. An occasional expression of suffering escaped her, between the incessant respiratory movements; then, as if fatigued, she threw herself down upon her bed, but only to resume immediately her former position. She complained of a deep-seated obtuse pain in the head, which was increased on pressing the middle of the occiput; it was, however, neither very severe nor constant, and did not appear in any way connected with the alternations of the yawning. The sensibility of the body, excepting one part, where it appeared to be abolished, was on the whole rather augmented. The hands were the parts without sensibility, and were besides cold, blue, and could be pinched and irritated without its being felt. The power of vision was gone, and bright flashes of light darted before the eyes of the patient, whatever was the state of the light in the chamber. There was no convulsive trembling of the eyeballs, and no pain in them on pressure. The pupils were slightly contracted, but sensible to light. The sense of taste appeared normal; those of smell and hearing were intensely acute. The ticking of a small watch in the pocket, not heard by any one present, was so painful to the patient that the bearer was obliged to leave the chamber. The intellect appeared clear, the patient answering promptly, by signs, to all the questions that were asked of her. Sleep was entirely prevented by the continual yawning. The only peculiarity in the muscular apparatus, was an occasional shock affecting the left side of the body, by which means the forearm was forcibly bent upon the arm, and the arm raised upwards and outwards; the thigh and leg being at the same time similarly affected. There were also occasional cramps in the calf of the leg on the same side; the tongue was slightly coated, and the bowels inclined to be costive, but in other respects the digestive functions appeared to go on naturally. Urine natural, and passed without difficulty. The impulse of the heart was increased, and heard over a larger space than usual. The carotids and arteries of the head pulsated strongly, contrasting with the pulsations at the wrist, which were weak. The sounds of the heart and respiration were natural.

The delirium was, as stated above, at once removed by a bleeding, but the other symptoms continued unchanged for about thirty hours; when the pain, which had been confined to a single point of the head, extended itself gradually downwards, along the whole course of the spinal column, and became so excruciating as to render intolerable the slightest touch of the scalp or the processes of the vertebræ. At the same time the yawning suddenly ceased, and the patient fell into a state of profound sleep. Persevering efforts were made for the space of half an hour, to arouse her from this sleep, but in vain, when a sudden yawn awakened her, and she began to sing some music which she had seen before her illness. Next, she recited in French some fables she had learned in that language while at school, and concluded by translating them into Italian. And if any word had been improperly rendered, she began her translation again and corrected the error, just as if she had had a book with the right translation before her. This was the more remarkable as she had not manifested the same proficiency in the French language during health; and in music she had never been instructed, nor had she a natural taste for it.

The menstrual discharge appeared in the midst of this scene, and lasted two days, but without any change in the continued alternations of sleep, singing, French recitation, and translation of it into Italian. After four days the above phenomena began to come on less frequently, the yawns occurred seldomer, and some refreshing sleep was obtained. At length they occurred only twice in the day. The power of vision also returned gradually, and the sensibility of the surface became normal, and the symptoms left her after an illness of about eight days; in the course of which she had been largely bled, freely purged, salivated, and taken quinine. But occasional threatenings of a return, which assumed a periodical character, annoyed her for some days. By the end of April, however, she was completely cured, and at the time of the report had continued for some months to enjoy robust health.

The author is of opinion that the disease consisted in inflammation of the medulla oblongata, extending itself by continuity to other parts of the base of the brain, and along the spinal cord. In support of this opinion he enters into a number of physiological details as to the effects of irritation applied to these parts, and the nerves arising from them, and attempts to account on this principle both for the phenomena themselves, and for the order of their appearance. —*Lond. & Ed. Month. Journ. Med. Sci.*, Oct. 1844, from *Gazetta Medica de Milano*, 9 March, 1844.

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28. *Analysis of the Blood of Persons exposed to Malaria.*—M. Salvagnoli examined the blood of four persons actually labouring under, or who had just recovered from intermittent fever, and were living in a malarious district. He found that it contained a notable diminution in the proportion of its fibrin, albumen, and fatty matter, and that the phosphates had almost entirely disappeared. It contained, however, a large quantity of cholesterine. It is remarked that the biliary secretion of those living in such districts has been previously noticed to be rich in cholesterine.—*Ed. Med. & Surg. Journ*, Oct., 1844, from *Gaz. Méd. de Paris*, 18 May, 1844.

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29. *Passage of Metallic Mercury into the Blood and Solid Tissues.*—M. Œsterlen has made a number of experiments for the purpose of ascertaining whether metallic mercury, when rubbed on the skin and given internally in a state of fine division, enters the body in the metallic state. For this purpose he both rubbed mercurial ointment on the shaved skins of animals, and administered a certain quantity internally. In both cases he found globules of mercury from the 250th to the 1000th of a line in diameter in the blood. The mucous contents of the colon also contained distinct globules of mercury. Metallic globules were also detected in the mesenteric glands, in the liver, spleen, lungs, kidney, in the bile, and in the urine; they were also found in the cavities of the heart. The author also states that he has detected metallic globules in the saliva and urine of a woman who was salivated by mercury. From his experiments, M. Œsterlen concludes, that, in general, small quantities of mercury, introduced by friction or by the stomach, are thrown out of the system by means of the urinary and biliary secretions.—*Ibid.*, from *L'Experience*, 1st Aug., 1844.

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30. *Epilepsy caused by a Foreign Body in the Ear, and cured by its removal.*—M. Lamothe relates, in the *Journ. de Méd. de Bordeaux*, a case of this kind. The subject of it was a man thirty years of age, in whose external meatus a pebble had been introduced. At first he experienced only a slight diminution of hearing; afterwards suppuration occurred, to which, however, the patient paid little attention; and finally epileptic attacks supervened. He had suffered from these for two years before he consulted M. Lamothe. This physician, being informed of the probable existence of a foreign body in the ear, made an examination, and perceived it distinctly. By appropriate means he removed the pebble, which was rough and of nearly a triangular shape, and from that time the patient has had no more attacks of epilepsy.

M. Roussilhe relates in the same journal a similar case.

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31. *Symptoms of Acute Pleurisy, caused by Intestinal Worms.*—The *Journ. de Méd. et de Chirurgie Prat.*, (Ap. 1844,) quotes from the *Gazette Médicales de Dijon*, the case of a young man, nineteen years of age, who was attacked with all the symptoms of acute pleurisy—chill followed by fever, severe pain in the left side, difficult jerking respiration, paroxysms of dry coughing, which drew screams from the patient, &c.,—all of which promptly disappeared after the evacuation of a large number (75) of lumbrici.

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32. *Sulphate of Iron combined with an Alkaline Carbonate, an Antidote for Prussic Acid.*—In an article published in the *Lancet*, (Oct. 5th,) Messrs. J. and J. H.

Smith, of Edinburgh, announce they have discovered that a sulphate of iron, of proper constitution, is an effectual antidote to prussic acid.

To prepare a salt of the proper constitution, seven parts of protosulphate of iron, say seven half drachms, are required, four of which are to be formed into persulphate. This is done by adding to the solution a quantity of sulphuric acid equal to the half of what it already contains,—which for two drachms, would be twenty-three grains of acid of the density 1·845—and at a boiling heat, adding, at short intervals, small quantities of nitric acid till red nitrous fumes cease to be given off. The liquid is then to be evaporated in a porcelain basin to perfect dryness, by the heat of a water bath, stirring constantly with a glass rod till the excess of acid is thoroughly driven off. The operation will be more quickly finished in a bath of a saturated solution of salt. The perfectly dry salt is then to be dissolved in distilled water along with one and a half drachms of protosulphate of iron, so that the solution may amount to two ounces. This solution will not of itself precipitate prussic acid, but if a solution of an alkaline carbonate be previously added, containing a quantity just sufficient to take all the sulphuric acid from the iron salt, the prussic acid combines instantaneously with the iron, forming the very permanent and insoluble compound, Prussian blue. As the solution of the sulphate of iron contains in all nine equivalents of sulphuric acid, the same number of equivalents of carbonate of potash—the alkaline carbonate used by the Messrs. Smiths*—will be required to seize upon these and produce complete decomposition.

The proper quantity of the alkaline carbonate required for the exact decomposition of the iron salt, the Messrs. Smith state to be one hundred and forty-four grains; and, for the sake of simplicity, they dissolve this in the same quantity of water as the sulphate of iron. As each of the solutions contains exactly 960 minims, which by calculation should throw down 56·8 grains of real prussic acid, between 17 and 18 minims of each should separate one grain; and as the hydrocyanic acid of the London pharmacopœia contains two per cent. of real acid, 35 minims of each would be required to precipitate 100 grains of such an acid. The acid of the Edinburgh pharmacopœia, on the other hand, containing about three per cent., a third more, or about 52 minims of each of the solutions, would be necessary to separate all the prussic acid from 100 grs. "It is probably unnecessary to carry the calculation higher, as we suspect that if a larger quantity than 100 grs. should be taken, the fatal effect would be so rapid as completely to exclude the possibility of rendering any available assistance. These are the quantities theoretically necessary, and when pure materials are used, will be found very nearly correct, as tested in an open vessel; but, when given as an antidote for the poison, we would recommend not less than three times the theoretical quantity to be given, as from the presence of food, mucus, &c., in the stomach, it is improbable that the antidote would mix immediately with the poison at every point, so that to render the action more certain, a large excess is advisable, more especially as this can be attended with no evil consequences, as the only effect that could follow an excess would be the formation of sulphate of potash, and an insoluble mixture of protocarbonate and peroxide of iron, which, if active in any way, would, by producing sickness and vomiting, be really in the direction most to be desired.

"There is one circumstance that may interfere with the action of the antidote, and which cannot be overlooked. We allude to the possibility, nay, the probability, of the existence of a strong acid in the stomach. In such a case, it is evident that the alkali, on entering the stomach, might be wholly neutralized, and thus prevent the decomposition of the iron salts; but we have found that the prussic acid is completely precipitated by the method proposed, although a large quantity either of caustic or carbonated magnesia is present, so that nothing is more easy than at the very outset to give the patient a large dose of magnesia in either state, so as thoroughly to neutralize all free acid; but when this is not possible, it is not meant that the antidote should not be given."

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* The carbonate of potash, which ought to be used in the preparation of the antidote, is the carbonate obtained from pure crystallized bi-carbonate of potash by heating in crucible to redness.

In giving the antidote, the Messrs. Smith advise the alkaline solution to be first administered, having previously mixed it with a little water; and the solution of iron salts, also diluted, to be next given without delay. They also recommend that not less than one drachm of each solution should be given for every thirty drops of the acid supposed to have been taken.

"We do not," Messrs. Smith observe, "for one moment conceive the remedy we have proposed to be infallibly successful as an antidote in all cases of poisoning by prussic acid. It stands, in this respect, on the same ground as our most valuable remedies. Its success must vary with circumstances peculiar to each case. It is very obvious that this, like every other remedial agent, however valuable, will frequently fail of the desired effect, simply from being too late of being applied."

"They think, however, that in no case of poisoning by prussic acid should it, if possible, be omitted, as it is sure to destroy the whole of the poison still left in the stomach, so that any harm which can arise from this will be wholly obviated, and unless the attack on the vital organs has already been too serious to be remedied, the person's life will be saved. Other approved means of treatment also should not be neglected, and especially bleeding freely from the jugular vein."

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33. *On the Diagnosis of Empyema.* By Robert Mac Donnell, Esq., of Dublin. —[We hardly need remind our readers that when serum is effused into the cavity of the pleura the affection is named *hydrothorax*, when the effusion consists of blood it is called *hæmothorax*, when the effusion is of a gaseous nature, *pneumothorax*, and when constituted of pus and other kinds of effusion, we have what is called *empyema*, especially when the liquid compresses the lung and impedes respiration. Mr. Mac Donnell has written a most interesting paper on the last-named affection, in which he relates several cases wherein one or more tumours appeared on the surface of the chest, which, after pulsating for some time, became red, tense and shining, and eventually burst, giving exit to large quantities of pus. When the empyema is attended with these pulsating tumours, he calls it "*Pulsating Empyema of Necessity.*" The following is a good illustration.]

A woman, aged 28, of dissolute and abandoned habits, was admitted into the Meath Hospital, Sept. 6. It appeared from her statement that she had been labouring under symptoms of acute pleuritis for two months, for which she was actively treated. When admitted, she was greatly emaciated, suffered from pain in the left side a little below the mamma; she had cough, with bloody streaks through the expectoration, and inability of lying on either side, decubitus being for the most part on the back. Her pulse was 108, small and weak. The *physical signs* were dulness of the left side, commencing a few inches below the clavicle, and extending downwards both before and behind; the left lateral region was likewise dull; total absence of respiration all over this dull portion; the upper part of the left side, both before and behind, was clear on percussion, with bronchitic rales accompanying the respiratory murmur. The lower half of the sternal region was completely dull, and here the sounds and pulsations of the heart were more intense than in any other situation. The whole of the right side of the chest, both before and behind, sounded clear, and the respiratory murmur was loud, puerile, and free from rale. There was no dilatation of the side observed on her admission.

For the next fortnight there was very little change observed; on the 21st, however, the cough again became very troublesome, and was accompanied by a copious muco-purulent expectoration, and her breath became intolerably fœtid; pulse 106, weak and feeble; respiration 25, and very laboured. She complained of slight tenderness a little below the nipple, but there was no discoloration or œdema of the part. On the 26th, a small tumour became perceptible, *every time she coughed*, in the situation of the pain; it was soft, and exquisitely tender to the touch, but not discoloured or œdematous. On the 28th, bronchitic rales were very intense in the right lung, and those in the top of the left lung were much increased; the *expectoration had become quite purulent.* When she reclined to the left side, the tumour became greatly enlarged, but receded when she lay on the right, and had a distinct fluctuation. On the 30th the tumour had extended considerably, and the expectoration was still *purulent, and very copious.* Pulse 108, and weak.

From the 1st of October till the 15th, she suffered severely from uncontrollable diarrhœa, and was reduced to such a state that her stools were passed involuntarily. The tumour had greatly increased, and was now about the size of an orange; it was red, shining, and fluctuating, *and had a strong diastolic pulsation,* which did not convey the idea of being tilted forward by a pulsating body, as occurs in the case of tumours lying on arteries; but it was of an expanding character, and in every part the pulsation was equally strong. *Though frequently examined with the stethoscope, the least trace of bruit de soufflet was never discovered;* nor had it the peculiar thrill so frequently felt in aneurisms. On the 21st she expectorated about a pint of green pus, and the bowel complaint received a notable check. The tumour was still more red, tense, and pulsating, and on the following day it burst, and gave exit to about three quarts of extremely fœtid pus, and she became exceedingly weak. After the evacuation of the pus the sound on percussion assumed a clear tone. On the 24th the respiration in the right lung was again healthy, and free from rale. The tumour had receded, the respiration in the affected side was just audible, but without rale. All the metallic phenomena, except *tinkling* and amphoric breathing, were present, and the sound on percussion was quite tympanitic. When the aperture was uncovered, *a peculiar rustling or whistling noise was perceived at each inspiration. From this time she began to rally, her strength increased, the diarrhœa ceased, and the purulent expectoration diminished,* and she was able to sit up all day, the pus constantly trickling from the fistula which remained open, and for the next six weeks she had periodical discharges to the amount of two or three quarts every ten days or so. At last her strength again failed, the cough increased, the pulse became quick, but she remained free from sweating. The clavicle and spine of the scapula of the affected side became gradually dull, accompanied with feeble respiration, mixed with crepitating rales. The day before her death, which occurred on the 15th of December, a discharge of nearly three quarts of green and fœtid pus escaped from the fistula.

Post mortem examination.—The right lung was in every respect healthy, *not the least evidence of bronchial inflammation in any part of it.* On the left side of the chest being opened, the lung was found bound by adhesions to the ribs, for about two-thirds of the pleural cavity, and the remaining third, *i. e.*, between the compressed and shriveled lung and diaphragm, was an empty cavity. The lung was also bound down to the spinal column by two strong bands of adhesion, and its inferior lobe was found red and carnified. The sac of the abscess passed behind the lung also, to a considerable distance; it was coated with a thin layer of organized lymph. The upper lobe of the left lung was the seat of numerous tubercles, beginning to soften, the anterior part of the lower lobe was healthy, but the posterior, as before stated, was solid. The fourth rib was quite carious near its cartilage, and the sixth was in a similar condition, and the periosteum covering both was in a sloughy state. Externally the integuments around the fistula were separated for a couple of inches from the subjacent muscles. *The liver was enlarged to nearly half its normal size, engorged and full of blood.* The intestines were examined with the greatest care, but no trace of disease could be discovered.

[In the next case related by Mr. Mac Donnell, two tumours appeared in the lower part of the left side, presenting fluctuation and *pulsation,* which, on being opened, gave exit to large quantities of pus; one tumour was situated in the spot usually occupied by the apex of the heart; the other posteriorly between the tenth and eleventh ribs, about two inches from the spine. They were each about the size of a Seville orange, were soft, fluctuating, not discoloured at first, and possessed a *strong diastolic pulsation*, quite visible, and as strong as that of an aneurism of equal size, but without *bruit de soufflet* or thrill. It was also evident that a communication existed between them, for, by placing the hand on one, fluctuation could be felt when the other was tapped. The heart had left its natural position, (now occupied by one of the tumours,) and was pulsating strongly and visibly to the right of the sternum, under the corresponding mamma. Both tumours were opened at different times to the great relief of the patient, who, however, eventually died of phthisis, after a residence of four months in a prison. In the third case related, "*two tumours*, each *about the size of a hen-egg, were observed*, one occupying a situation a few inches below the nipple, the other presented itself between the tenth and eleventh ribs, about two inches from the spinal column. *They were rather tender to the touch, a few turgid veins surrounded their bases, the integument covering them was discoloured and reddish, and they both possessed a well-marked fluctuation, and a distinct, perceptible, and diastolic pulsation.* This latter peculiarity was not only evident to the touch, but quite perceptible to the eye; and as was noted in the two former cases, these tumours were completely devoid of thrill or *bruit de soufflet*, and the pulsation had all the characters that were observed in the two others." An opening was made into the posterior tumour, and a large quantity of odourless pus was discharged; the entire amount was not, however, drawn off, and the wound was closed with adhesive plaster, and soon united. When next examined, the tumour was found as large as before, and again presented the *pulsation* as well marked as ever. From the operation he experienced great relief for a few days, but again the urgent symptoms obliged Mr. Morrison, his regular attendant, to make a second opening, and as soon as the matter began to flow, he got ease from the sense of suffocation. For a little while the patient appeared to improve, but he soon fell a victim to distressing hectic."]

Remarks.—The three preceding cases are no less interesting than important, and, as far as I have been able to ascertain, are perfectly new in the history of empyema, there being no mention made of such cases in any of the recent writings on the disease. It is worthy of notice that in all three large tumours presented themselves in the situation usually occupied by the heart's apex, and, in all, the heart itself was dislocated to the right of the sternum; there cannot then be the least doubt as to the source from which the pulsation was derived, and the manner in which it was communicated to these abscesses. The heart, pushed out of its normal position, pulsated strongly and equally against their walls, and their contents being fluid and of equal density, a uniform and diastolic impulse was communicated to all parts of their surface, more intense, of course, in those situations nearest the source of pulsation. This accounts for what was noticed in the three cases, that the pulsation did not resemble that so often observed in tumours lying over large arteries, in which the motion consists in a mere tilting forward, nor was it like that which is seen in ordinary abscesses lying on an artery, in which the pulsation occurs, generally speaking, along the line of the vessel, and is scarcely perceptible in any other part of the tumour; but it was uniform, expanding, and strong. In the two last cases, the tumours behind either derived their pulsation from the heart or from the thoracic aorta, and were, from their size, situation, and feeble pulsation, more likely to lead us into error than those in front. What are the affections with which these cases might have been confounded by a person ignorant of the actual state of our knowledge respecting thoracic disease, or who, unacquainted with their history, had only seen them for the first time? Thoracic aneurism, and pulsating cancer of the lungs immediately present themselves to our view, and on examination we shall find that they possess some features in common. When compared with aneurisms we have, in both cases, tumours occurring in patients, who, for a length of time, complained of pain in the side, difficulty of breathing, cough, inability to lie but on one side; whose constitutions were exhausted by the protracted and distressing nature of their complaints, and in whom the outward progress of the disease was marked by severe pain at a particular point, in which, after a time, a small tumour, of a soft and yielding nature, is observed, which gradually increases in size, is totally devoid of pain, and presents well-marked *diastolic pulsation.* But, on the other hand, the history of the two last cases was that of pleurisy with effusion; their duration, also, (three years,) was greater than the average length of time that patients with thoracic aneurisms lived, and at no period did they experience those dreadful, tearing, and lancinating pains peculiar to the latter disease; and, in addition, many of the usual symptoms of the affection were absent, such as dysphagia, *the peculiar aneurismal cough*, a *bruit de soufflet* on placing the stethoscope over the tumour, and a thrill sensible to the hand; and, as far as I have been able to ascertain, aneurism of the thoracic aorta has never presented itself externally in two situations so *widely separated.* They were also distinguished from aneurism in the following particulars: the greater portion of the affected side was dull, and without respiratory murmur, yet the pulsation was *only* felt in the external tumours, in this respect differing essentially from aneurisms, in which the pulsation, thrill, and *bruit de soufflet*, (when present,) *are most intense at the point of maximum dulness;* and though by pressure on a bronchial tube, aneurisms may prevent the entrance of air into the part of the lung to which the tube leads, and thus produce absence of murmur, yet this portion of lung will yield a clear sound on percussion, thus presenting phenomena altogether different from those observed in my cases.

These cases, however, establish the fact, that "empyema of necessity" is liable to be mistaken for aneurism, particularly, (as in the first case,) when it occurs in the form of *one large pulsating tumour*, and an accurate knowledge of the characteristic features of the two affections is necessary in order to avoid committing the grievous error of pronouncing an empyema to be an aneurism, or *vice versa*. But we do not anticipate so much difficulty in distinguishing between these two diseases as between such cases as I have detailed, and "cancer of the lung and mediastinum." At the very outset of our investigation a great difficulty presents itself, for we cannot avail ourselves of the aid derived from the history of the disease, for in many of the most accurately recorded instances of cancer of the lung, the patients evidently suffered at the commencement of their illness *from pleurisy excited by ordinary causes, and followed by empyema*, and, in other instances, where the existence of empyema was not actually discovered, the history of the cases resembled, in many particulars, that of ordinary pleurisy.

[Mr. Mac Donnell next relates two interesting cases of empyema in which the pus made its way, not externally, but into one or more of the bronchial tubes, and was removed by expectoration. The first case commenced with acute pleuritis, followed by *copious purulent expectoration*, two large sputa-cups full of thick, yellow, "well concocted" pus being expectorated daily. The entire of the empyema was thus removed by expectoration, and in six weeks the patient quite recovered. Professor Greene, in the 17th vol. of the Dublin Journal, has drawn the attention of the profession to some cases of this kind.] "He details the particulars of four cases of the disease, in all of which copious *purulent* expectoration was a prominent symptom; and in all there were external tumours, which it was deemed prudent to puncture. In these instances, it was observed, that as soon as the matter got exit by the external opening, the quantity of *purulent* expectoration diminished, and the same circumstance occurred in the case now mentioned. Dr. Greene adds—'The first explanation I heard offered as to the nature and cause of this expectoration was suggested by Dr. Hutton, in a consultation held on one of the cases detailed. He observed, that he had frequently seen the expectoration to subside and lose its character when an opening had been made for the collection, and had consequently come to the conclusion, that in many cases of empyema the expectoration was the result of an effort of nature to free the system of purulent deposit through an external outlet, which, in these instances, was effected through the bronchial tubes.'

"The paper of Dr. Greene must be regarded by every physician as one of the most useful that has appeared for many years. We learn from it, that though a patient present all the symptoms of extensive empyema of one side, with bronchitic rales or gurgling in the opposite lung, and copious *purulent* expectoration, the case is not to be despaired of, nor are we justified in giving a positive diagnosis of the existence of pulmonary abscess.

"Before the appearance of Dr. Greene's paper, these cases would have been considered as hopeless examples of pulmonary abscesses, or at least of empyema bursting into a bronchial tube. This leads me to make a few remarks, suggested by the close observation of some cases of empyema, which have terminated by purulent discharges from the bronchial tubes. There are two modes by which this process is effected; in one, the membrane *takes on a vicarious action*, by which large quantities of pus are discharged *without any distinct evidence of inflammation being set up in the membrane, or communication being established between the bronchial tubes and the sac of the abscess.* In the other form, a *direct* communication exists between the bronchial tube and the sac of the empyema. They are both efforts of nature to get rid of the purulent collection and effect a spontaneous cure, but as the means adopted are so widely different, an equally opposite train of symptoms may naturally be expected to attend these processes, and such we find to be the case.

"In the examples detailed by Dr. Greene, and in those which I have given, the expectoration was thrown up *in small quantities at each paroxysm* of coughing, and though it amounted to a considerable quantity during the twenty-four hours, yet what followed each paroxysm of coughing never occasioned any distress to the patient or alarm to his attendants, and was excreted gradually and regularly, without producing any violent or distressing symptom to the patient; and the removal of the empyema, as shown by diminution in the extent of the dulness and return of respiratory murmur in the affected side, was equally gradual and progressive. But, in the second class of cases, where a direct communication has been established, we have, in addition to the rapid development of the physical signs denoting the accident, (such as the sudden removal of the dulness, with metallic phenomena of the voice and cough, and a tympanitic sound over the portion of the chest previously dull,) *a violent and sudden paroxysm of coughing, usually accompanied with expectoration of a large quantity of pus, so great as in almost every instance to produce the most alarming symptoms of suffocation, and not unfrequently even death from this cause.* This is followed by relief for a time, but a second and third accumulation of the matter takes place, which is again got rid of in the same way; and on each occasion the patient's life is in imminent danger from asphyxia."

[It might seem difficult to distinguish these cases from true pulmonary abscesses, but these latter affections "are not accompanied with very copious expectoration, but, on the contrary, are found to contain an exceedingly small quantity of pus." Pneumonic abscess is, moreover, one of the rarest lesions met with in the lungs, and almost always occupies the base of the organ, while tubercular abscess is situated in the apex. The points discussed in this admirable paper of Mr. Mac Donnell are summed up by him as follows:—]

1. That in cases I., II. and III. we are presented with a new form of empyema, which may be termed "Pulsating Empyema of Necessity," exhibiting some features common to that form of empyema and to thoracic aneurism, and encephaloid disease of the lung.

2. That it may be diagnosed from thoracic aneurisms, by
   a. The history of the case.
   b. The dulness extending over the whole side, the pulsation being only felt in the external tumour.
   c. The absence of thrill.
   d. The absence of *bruit de soufflet.*
   e. The extent and nature of the fluctuation.

3. That it may be distinguished from encephaloid disease of the lung and mediastinum, by

a. The absence of the expectoration resembling *black currant jelly.*
b. The absence of a persistent bronchitis.
c. The absence of a varicose condition of the veins and œdema of the side affected.
d. In cancer of the lung the situation in which the external tumours form, is not invariably confined to the thorax.

4. That copious purulent expectoration in empyema is not always indicative of cavities in the lung; but, on the contrary, is of frequent occurrence in this disease, and seems to be the result of an effort of nature to get rid of the purulent collection by the nearest and readiest outlet.

5. That this symptom, when it results from the above cause, is not attended with the usual symptoms either of abscess of the lungs, or inflammation of the bronchial mucous membrane.

6. That a *true* bronchitis of the sound lung frequently complicates empyema.

7. That still more frequently the sound lung becomes congested, and presents some of the ordinary signs of bronchitis and pneumonia, from both of which it may be distinguished by attention to the rules laid down in the previous part of this communication.

8. That in addition to *depression* of the liver, from mechanical causes, that organ is likewise *enlarged from engorgement with blood* in empyema.

9. This enlargement is not confined to empyema of the right side, but occurs also when the disease is seated in the left cavity of the chest.

10. That this enlargement is identical with that which takes place in other affections of the lungs and heart, where, in consequence of their functions being impaired, an additional duty is imposed on the liver, viz., *that of eliminating carbon from the blood*, as proved by the researches of Tiedemann and Gmelin, Elliotson and Liebig; and as occurs in the former cases, so likewise we observe in this, that the increased size of the organ is due to an additional afflux of blood, whereby its structure becomes engorged, softer in consistence, and darker in colour.

11. This condition of the liver has been observed by myself as proved by dissection, (see Case I.,) and its presence detected in other cases that have recovered. It has also been mentioned by many writers in their accounts of the appearances noticed at the autopsies of cases of empyema, who have recorded the fact, though unaware of its connection with the subject under discussion, and it must now be considered as constituting an additional feature in the diagnosis and pathology of empyema.

12. This condition of the liver, when it occurs in the ordinary diseases of the heart and lungs, has been observed to disappear as soon as the obstruction to the circulation of the blood and want of proper aeration, which gave rise to it, had ceased. So likewise in empyema, its disappearance is one of the first signs which indicate the removal of the effusion, and the return of the compressed lung to the performance of its functions.—*Braithwaite's Retrospect*, Vol. IX., from *Dublin Journ. Med. Sci.*, March, 1844.

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34. *A Tænia evacuated through an opening in the Abdominal Parietes.*—Bremser, Rudolphi, Cruveilhier and others, have questioned the accuracy of the recorded histories of lumbrici making their way through the parietes of the intestines; but the more recent researches of M. Mondiere would seem to prove indisputably the perfect authenticity of the alleged fact, and to show—

1. That lumbrici may work themselves a passage through the parietes of the intestines, by simply separating the fibres of these parietes by means of their head or anterior extremity;

2. That, by reason of the contractility of the muscular fibres of the intestinal parietes, the opening, which has given passage to the worm, is immediately obliterated, and leaves no perceptible trace behind;

3. That, in consequence of this arrangement, a verminous tumour, when it opens outwardly, cannot communicate directly with the cavity of the intestines;

4. That a verminous tumour may be formed at any point of the abdomen,

but that it is most commonly developed about the inguinal and umbilical regions.

Instances of the discharge of Tæniæ in this manner are of much more rare occurrence. Only two cases are on record, as far as we are able to ascertain. One is related by Mouleng, in the *Journal de Medecine*, tom. lvi., and the other by Sporing, in the *Memoires de l'Acad. des Sciences de Suede*, tom. ix. In both these cases, however, the presence of fæcal matters in the verminous tumour, and the permanence of a fistula after the discharge of the tænia through the abdominal parietes, induce the belief that the worm had made its way outwardly through an *ulceration* of the bowels.

The following fact, recorded as it is with all necessary details by Professor Siebold, serves to make it probable that a *tænia* may traverse the parietes of the intestines by merely separating their fibres, in the manner that *lumbrici* are in the habit of doing.

A young man was received into the surgical hospital in consequence of several scrofulous abscesses on different parts of his body. A tumour, which was supposed to be of this nature, occupied the umbilical region. A few days after his admission, Dr. Herz was in all haste summoned to the patient, as the swelling had suddenly burst, and given issue to a tænia, which was alive and moved about quite freely. It was cautiously laid hold of, and slowly and very gradually drawn out to the extent of several ells. No gas, chyle, bile or fæcal matter escaped from the opening; in short, there was nothing to lead to the suspicion that the verminous swelling had any communication with the cavity of the intestines.—*Med. Chirurg. Rev.*, October, 1844, from *Medicinische Zeitung fur Heilk. in Preussen*, 1843. No. 17.

35. *M. Trousseau on the Signs of Auscultation in young children.*—Every experienced physician must have found—if he has taken the trouble to examine the subject—that auscultation is of comparatively little value in the diagnosis of pulmonic diseases in early life. It is not often that the young patient can be kept sufficiently quiet to enable us to make the proper examination; and, moreover, the respiratory murmur is usually so loud and boisterous—especially upon any excitement—as completely to overpower any abnormal *bruits* that may be present. Fortunately the practitioner does not often feel the need of any extraneous means to aid his diagnosis in the thoracic diseases of infancy; the rational symptoms, as they have been rather absurdly called, being usually quite sufficient. The following remarks were made by M. Trousseau in his clinical lectures at the Hopital Necker.

"If the child be perfectly quiet, the breathing does not sensibly differ from that in the adult; the inspiration is rather noisy, while the expiration is scarcely perceptible; moreover, the former is exceedingly active and slow, while the second, on the contrary, is rapid and purely passive. But, if the child be restless, the inspiration is immediately rapid, and the expansion of the lungs cannot be perceived, while the expiration is, at the same time, slow, and accomplished with the aid of all those muscles which usually concur to the performance of this act. The air issues from the glottis in a small noisy stream. The expiration, therefore, is here essentially active, the very contrary of what it is in the normal state: moreover—and I insist upon this point—it must be very slow, while the act of inspiration is performed rapidly.

"This new rhythm it is very necessary to be aware of, because the character of certain pathological auscultatory sounds, which are thence derived, is more or less altered in consequence. In truth, if, as M. Beau believes—and in this opinion I quite agree with him—the blowing sounds and their numerous modifications really take place and are formed in the larynx, and are transmitted to the ear through the indurated lung by the air in the trachea and bronchi, it must follow that they (the sounds) will be the more distinct and obvious in proportion as the passage of the air is accompanied with the most blowing noise in the larynx. Now this is what we perceive to be the case in the adult. The inspiration is slow, and the expiration is rapid; the inspired air, therefore, passes more silently through the larynx than that which is expired; and thus it is that the blowing sounds are most distinctly audible during the act of expiration. But if—as in the case of the restless child—the inspiration be performed rapidly instead of slowly, the blowing sounds are heard during expiration when it (the child) is calm, and during inspiration when it is restless and crying."—*Med. Chirurg. Rev.*, October, 1844.

SURGICAL PATHOLOGY AND THERAPEUTICS AND OPERATIVE SURGERY.

36. *Treatment of Obstinate Stricture of the Urethra.* By **James Syme**, Esq., Prof. of Clinical Surgery, (*Lond. and Edinb. Month. Journ. of Med. Sci.*, Oct., 1844.)—The simple bougie is now, in Great Britain at least, Mr. Syme says, nearly the only means employed in treating strictures of the urethra; "and in the great majority of cases, the success attending its employment leaves nothing to be desired with a view to increasing the facility, safety, or efficiency of the process. But every practitioner of experience must have met with exceptions from the ordinary rule; and on such occasions, instead of finding the contraction readily yield to the progressively increased size of the instruments introduced, could not avoid remarking a peculiar obstinacy of resistance. Along with this obstinacy of disposition, there is usually associated a proportional degree of irritability, which renders the treatment still more embarrassing and also dangerous. For the pressure that is made in endeavouring to overcome the resistance, is very apt to occasion rigors, and a febrile paroxysm, which, instead of passing away like the ordinary attacks of this kind attendant upon stricture, without any local or constitutional derangement, may be followed by swelling of the testicle, abscess of the perineum, or suppuration of the large joints. In the event of these unpleasant effects neither proving fatal, nor interrupting the treatment by exhausting patience, the surgeon may at length succeed in passing a moderate or full-sized instrument, but with little credit or satisfaction, since the strong tendency to contraction exposes the patient to a speedy relapse, and renders a frequent recourse to bougies necessary for his comfort so long as he lives.

In explaining a mode of procedure for easily, safely, effectually and permanently subduing this obstinate and irritable form of stricture, he states, that its ordinary seat is in the anterior part of the canal, where no difficulty attends the passing of instruments; and he adds, that during the course of his fifteen years' hospital practice he has never, either in public or private, found it necessary to puncture the bladder from inability to pass the catheter for retention of urine.

The following case will illustrate Mr. Syme's mode of treatment:—A boy, aged 15, was brought to him on the 18th of May, who had received a kick from a horse, in the perineum, two months before. About a week after this injury, which was so severe as to confine him to bed, the boy had noticed the flow of his urine to be slower than usual and attended with pain. These symptoms had gradually increased, until the water could be voided only by drops, and at the same time could not be retained, so that it was continually escaping, and wetting his clothes. Mr. S. found a stricture of the urethra opposite the scrotum, so tight that it would not admit the smallest probe, and surrounded by a mass of thickened and indurated texture, in the form of a ring, nearly half an inch broad. After trying various instruments without success, Mr. S. passed an exceeding slender catgut bougie through the stricture, and then a succession of larger ones, until at length a metallic bougie of the smallest size could be introduced.

At the end of two months' patient treatment it was found that no more ground had been gained, and that though the patient had ceased to suffer from incontinence of urine, the symptoms in other respects remained without alleviation—the hard ring at the seat of the stricture having suffered no diminution, and micturition being still painful, as well as frequent. On the 19th of

July, Mr. S. introduced a small grooved director into the urethra, and, while it was steadily held by an assistant, compressing the indurated part of the canal between the forefinger and thumb of his left hand—punctured the integuments with a narrow-bladed knife—directed its point into the groove immediately above the stricture—and then pushed the edge forward, until he distinctly felt the whole dense texture give way to it. A full-sized catheter was then passed without encountering the slightest impediment. The loss of blood did not exceed a drop or two, and the wound healed like the prick of a needle, so as to leave no trace of its existence; and at the end of two days, when the catheter was withdrawn, the patient felt in every respect perfectly well. Some days afterwards Mr. S. examined the state of the canal, and found, that not only the catheter passed at the time of the operation, but even a larger one could be introduced without the smallest feeling of contraction. The boy was dismissed on the 29th, with instructions to return occasionally.

Mr. S. says, that nothing can be farther from his intention than to propose division of strictures, by a cutting instrument, as in general preferable to the treatment by bougies. It is strictly to those cases which are found to resist a careful trial of the latter method, that the operation should be limited.

He sums up his views of the subject, by stating the following principles:—

1st. Stricture of the urethra does not always yield to the use of bougies.

2d. Attempts to overcome the resistance of obstinate strictures by the bougie, are apt to occasion serious disturbance, local as well as general.

3d. Strictures of this obstinate nature are generally seated in the anterior part of the urethra, but may occur at any part of the canal liable to contraction, and are usually surrounded by a thickened mass of indurated texture.

4th. Partial division of this ring, either from within or without, affords temporary facility in passing instruments, but no permanent relief from the complaint.

5th. Complete division of the indurated and contracted part is the only effectual remedy.

6th. The best way of effecting complete division, is to divide the contracted portion upon a director, by subcutaneous incision, if the anterior part of the canal is concerned; and by free incision if the stricture be seated behind the scrotum.

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37. *Suture of the Intestine.* (*Comptes Rendus.*)—M. Reybard, of Lyons, has communicated to the French Academy of Medicine a case which he considers one of cancerous tumour of the sigmoid flexure of the colon, in which he extirpated a portion of intestine, and the patient recovered. The details of the case are so imperfect that we shall not give them, but may mention that the cure was not permanent, and the patient died,—but no post-mortem examination was made. The point we wish to notice, is the suture which M. R. employed for uniting the ends of the intestine, and which he supposes to possess advantages over other forms.

Before applying the suture in this case, M. R. armed two needles with a fine double silk thread, and one of the needles carried a small roll of lint, the size of the head of a pin.

"When," says M. Reybard, "I co-aptated the two extremities of intestine, I attached them together near their mesenteric border with the thread of the first needle, and tied a double knot; this was the first stitch of the uninterrupted suture, which was carried by successive stitches to about the middle of the solution of continuity, care being taken to draw the spirals tight and approximate the stitches closely. I then cut the thread at a distance of seven or eight lines from the intestine; I then fastened the thread, not by knotting it, but by including it beneath each point of suture made with the second thread, with which I completed the suture. When the suture was thus completed, that is to say, carried to the mesenteric border of the intestine, I fastened the thread, by tying together in a double knot the ends of the two threads of which it consisted. Before tying them, I passed them through the lips of the wound, including, however, its peritoneal surface only, in order that the ligature should cut through on that side first; this being done, I cut the threads close to the intestine."

This memoir was referred to a committee, in the presence of whom M. R. repeated his operation on several dogs, and the particulars of which are related by M. Jobert de Lamballe, in his report on behalf of that committee. It will be sufficient to quote the conclusions, as given in the report:

"The important fact," says M. Jobert, "in all these experiments is, that immediate union of the wound did not take place; that there was sometimes diffuse effusion into the cavity of the peritoneum, while sometimes the effusion was circumscribed by the accidental agglutination of the intestines to the wound. At the points where reunion did occur, it was due to the more or less perfect adhesion of the two layers of serous membrane, and not to adhesion of the lips of the wound. Twice the adhesion between the cut surface was established by means of a substance of new formation, which was easily torn, did not occupy the entire extent of the wound, and presented fistulous openings at several points.

"Such, then, was the result of the operation. But what was the result M. Reybard sought to effect? The immediate union of the lips of the wound by first intention, and both of the serous, muscular, and mucous surfaces. And how did he try to effect this object? By a modification of the uninterrupted suture. M. Reybard expected, by an alteration of Pelletier's method, to obtain direct union of the wound; and, secondly, he hoped that the threads, from the manner in which he arranged them, would be detached into the intestine, and expelled without producing fistulous points and consequent effusion. In fact, the first suture being fixed in the interior of the intestine by a large knot, and also by a small dossil of lint, should, by its weight, draw the suture towards the cavity of the intestine; while the second suture, united with the ligatures placed on the mesenteric arteries, and passed with them into the intestine, should be detached in the same direction.

"If M. Reybard had been thoroughly aware of the objection long since made to this plan, and had he not laboured under some mistake as to the results obtained in experiments on animals, he would, doubtless, have hesitated in adopting this description of suture, with which it seems impossible to obtain the direct union of the cut surfaces. The mobility of the parts—the thinness of the parts to be maintained in contact—the numerous causes which may cause separation of the surfaces, such as contraction of the coats of the intestine, their tumefaction, the distension of the intestine by gas—all those reasons sufficiently explain why immediate reunion cannot be obtained by the suture recommended by M. Reybard; and if reunion cannot be obtained in dogs, how could it be effected in man, in whom the coats of the intestines are much thinner? Moreover, how could it be expected that a fistula would not sometimes occur at the points where the threads were placed within the intestine? M. Reybard's idea, if practicable, would be good, but experiments on animals have fully proved its danger.

M. Jobert proceeded to show, by reading extracts from a work published by M. Reybard, in 1827, entitled, '*Memoir on the treatment of Artificial Anus, of penetrating Wounds of the Abdomen and penetrating Wounds of the Thorax,*' that M Reybard himself had formerly, from the result of numerous experiments on animals, come to the conclusion that it was impossible to obtain immediate union of a wound of an intestine."

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38. *Nature and Source of the Liquid which flows from the Ear producing Œdema of the Scalp.* By M. Bodinier. (*Bulletin de la Société Anatomique de Paris*, Nos. March and April, 1844.)—In some cases of fracture of the cranium, there is a discharge of serous fluid from the meatus externus. Though this had been long observed, M. Laugier was the first to call especial attention to it, which he did in 1840. M. Bodinier, having had an opportunity of observing a case of this description, has made it the subject of some interesting observations.

According to M. Bodinier, the serum which flows from the ear in these cases, presents all the physical and chemical characters of the cerebro-spinal fluid, and is in fact this fluid, tinged sometimes with a little blood. But in the cases where this discharge has existed, on post mortem examination, no rupture of the membranes of the brain has been found through which this fluid could be discharged. The mechanism by which the fluid finds its way externally is then to be discovered. M. Bodinier conceives, that it is effected by endosmose, and all the conditions necessary for the production of this phenomena exist:—thus we have within the membranes of the brain a very thin fluid, the cerebro-spinal; and externally, a collection of blood more or less coagulated, and always denser than the first-named fluid. To verify this explanation M. B. has made some experiments on the dead body, which confirm the correctness of this explanation.

M. Bourdon, in his report on this memoir, expresses the opinion, that the flow of a colourless, uncoagulable serum from the external meatus may present useful indications as regards the diagnosis, prognosis and even treatment of certain fractures of the cranium. Thus it will indicate a fracture of the petrous portion of the temporal bone, with effusion of blood between the dura mater and the bone, lesions in general very serious. It will guide the surgeon in the application of the trephine in cases where he wishes to give issue to the euffsed blood; in fact, where the symptoms we are considering exist, we may suspect the existence of a collection of blood beneath the temporal fossa.

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39. *Gunshot Wound, where the charge passed from the Navel to the Back without fatal consequences.* By Edward Danville, Esq. (*Prov. Med. and Surg. Journ.*, Sept. 11, 1844.)—A man, about 25 years of age, was accidentally shot. The contents of the gun entered about an inch below the navel, on the right side, and passed out about two inches above the hip and three from the vertebral column; the distance from wound to wound was about six inches. The ignited wadding or cartridge passed through the wound unextinguished, and set fire to the shirt, opposite the posterior opening. Mr. D. could not decide "whether the charge had passed directly through the body, or whether, by the resistance of the abdominal muscles, it had been diverted from its course, and had made a semicircular transit immediately under the integuments." Looking at the case as hopeless, Mr. D. merely defended the wound; there was neither probing nor poking, no endeavour to remove extraneous circumstances. Nature was left to her own operations, and she did her business well. The wound digested properly, portions of garment and other extraneous matter passed out at the posterior opening, and about 40 shot passed with them; 15 or 20 shot remain under the integuments, but the patient suffers no inconvenience from them; and he is now in excellent health.

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40. *Mode of reducing Partial Displacement of the semilunar Cartilages of the Knee-joint.*—Mr. W. H. Sandham, of Cork, describes, in the *Dublin Medical Press*, (Aug. 21, 1844,) the following method of reducing partial luxations of the semilunar cartilages of the knee-joint. Place the patient on his back upon a sofa or the floor, flex the thigh on the pelvis, then place a hard pad, the size of the thick part of the forearm of the patient, or (what is better, and what was done in the present case), make the patient place his own arm under the knee-joint, then flex the leg on the thigh, using considerable force, the effect of which will be to separate the head of the tibia from the condyles of the femur, and give room to the cartilages to resume their natural position, for it is clear from the symptoms that one or other is pinched between these bones. Then, taking care to preserve the flexed position, turn the leg outwards, if it be the internal cartilage which is displaced, and inwards, if the external cartilage be the one engaged, which is readily discovered, for if, when you commence to turn the leg outwards, you immediately give pain, you should cease; the contrary direction, which gives trifling pain, is the proper one. Then (preserving the leg turned,) you gradually, and without using any violence, extend the limb, and you will find the cartilage to resume its natural position. An elastic knee-

cap, together with cold ablution, or the douche, to give tone to the parts, will prevent its recurrence.

41. *Operation for the Radical Cure of Hydrocele.* By Dr. W. H. Porter.—(*Dub. Journ. Med. Sci.*, July, 1844.)—The author, after trying various operations for the radical cure of hydrocele, has adopted the following, which, he says, "if not altogether free from the objection of a possible relapse, or return of the disease, is not so liable to be followed by the severe and violent inflammations that render the operation by injection so perilous.

"This operation is partly that by incision, the only difference being, that instead of dividing the tunica vaginalis in the entire extent of the tumour, my incision extends only from an inch to an inch and a half in length; and partly that by the tent, an operation first proposed (it is said) by Franco, and revived and recommended by the celebrated Larrey. Having first punctured the tumour in order to examine the state of the parts, and satisfy myself that it is a case in which an attempt to cure the disease radically may be safely made, or at least in which such an attempt would be justifiable, I allow the sac to fill again. When the disease has re-appeared, and the tunica vaginalis is as much distended as it previously had been, I perform the operation thus: Having that part of the scrotum in which I intend to operate, shaved, I make the incision of the length above mentioned, down to the tunica vaginalis, and examine carefully whether any vessel has been wounded that could possibly furnish a considerable quantity of blood. I then pass a bistoury into the tunica vaginalis at one extremity of the incision, out at the other, and divide it by a rapid withdrawal of the instrument. Having completed the incision, a tent of rolled lint, moistened with oil, and secured with a ligature, so as to be easily withdrawn, is introduced. The operation is then completed. The patient may be placed in bed. On the succeeding day I generally bleed from the arm to the extent of ten to twelve, or fourteen ounces, and particularly if the scrotum is red, and shows a tendency to inflammation. Latterly, I have adopted this practice as a preventive in all cases, with apparently the most satisfactory results. The tent is left to become loose, and drop out of itself, which usually takes place on the third or fourth day, and need not be replaced; but it is desirable to break up any adhesions that may be found between the lips of the wound, and to introduce the finger occasionally into the cavity of the tunica vaginalis until the sixth, after which it may be treated with light superficial dressing, and the cure is generally perfect in about three weeks."

Dr. P. says that he has practised this operation for fifteen years, and, comparing it with others, has not much reason to feel dissatisfied. At first, he was in the habit of plunging the bistoury at once into the tumour, and completing the incision to the requisite length, by making it cut its way outwards rapidly and at once. This gave an appearance of great simplicity to the operation, but in some instances caused the fluid to become extensively infiltrated in the cellular tissue, which looks unseemly, although really of no consequence, as it is absorbed in a few hours.

42. *Two cases of Luxation of the Iliac Bone upon the sacrum.*—The editor of *L'Experience* records, in the number of that journal for 28th September, 1843, two cases of this very rare form of luxation, for which he is indebted to MM. Tavignot and Peste, internes in the service of M. Lenoir, at the hospital Necker. He prefaces them with the remark, that, in the opinion of Boyer, "instances of simple luxation of the bones of the pelvis, from external causes, are so extraordinary, that it would be very difficult to believe in them, had they not been observed by men whose honesty and exactness were well known." Both of these cases presented themselves in the hospital at the same time, and, although one of them is not, strictly speaking, an example of simple luxation, the luxation of the iliac bone being evidently complicated with fracture of the ischium and pubes.

Case I., reported by M. Tavignot. On the 1st of August, a man named Bonhomme, aged 32, a blacksmith by trade, entered the surgical wards of M. Lenoir. He stated that on the evening previous to his admission, having just entered his house, he went towards a window without any guards, tripped and fell from the third story to the pavement below. He could give no account of the manner in which he fell, having lost his consciousness until the following morning. His condition, when examined upon entry, was as follows. A vast extravasation of blood occupied the whole upper part of the right thigh, and appeared to extend to the corresponding abdominal parietes. He could not move the lower extremity, which was, at first sight, shorter than that of the opposite side; the point of the foot was turned slightly outwards. His urine was passed with difficulty, and was drawn off for two days. He was bled twice, twenty leeches were applied to the thigh, and he was laid upon his back. No accident occurred; the tumefaction, extravasation of blood and pain disappeared, so that the patient, who, at the beginning, could, but with very great difficulty, move himself in his bed, got up on 15th September, and was even able to walk a little with crutches. What was his affection? The following statement will show. The length of the limbs, measured from the spine of the ilium to the external malleolus, on both sides, is exactly the same, and yet the right limb looked shorter than the left, at least two centimeters. The foot is not turned either inwards or outwards. The right anterior superior spine of the ilium corresponds with a horizontal line drawn through the umbilicus, while the left is situated five centimeters below it.

The fold of the right groin is somewhat higher than that of the left. Upon feeling carefully and comparatively, the horizontal portion of the two pubes, it is easily perceived that on the right side, and starting from the symphysis pubis, the os pubis is somewhat higher than on the opposite side; at the same time, a hard resisting body, with an uniform surface, which appears to be situated in the iliac fossa, may be felt from the iliac spine to the spine of the pubes. This surface is nothing else, as is evident, than the horizontal portion of the pubes, which has been elevated about three or four centimeters. Examination *per rectum* enables us to ascertain that the tuberosity of the right ischium is sensibly nearer the median line, at the same time that it is elevated. The right branch of the pubes appears, also, to have mounted at the symphysis upon that of the opposite side, so that it is, in respect to the finger, upon a plane anterior to that of the left side. Behind, we remark, that the fold of the buttock is situated four or five centimeters above that of the opposite side; the tuberosity of the right ischium has mounted at least four or five centimeters upon the median line; the sacrum has its normal configuration, but upon its right edge a very sensible depression is observed at the level of its junction with the ilium; the right buttock, instead of the prominence presented by that of the opposite side, offers a very marked depression. Pressure on this spot is very painful, though there is but slight œdema. The two iliac crests are far from being on the same level. A horizontal line passing from the right one, passes five centimeters above the left. It should be noticed that the posterior spine of the ilium, and particularly the crest of the right side are, as it were, thrown backwards, that is to say, they are situated upon a plane posterior to that of the same parts on the opposite side. The vertebral column appears untouched. There are, at present, no longer any traces of sanguineous extravasation, and every thing leads to the hope that gradually the motions necessary for progression will be re-established, if not entirely, in consequence of the inevitable limping which will remain, at least in a manner sufficient to allow the patient to return to his ordinary occupations.

Case II., reported by M. Peste. Chavanne, a ragman, aged 39, was brought to the Necker Hospital, on the 28th July, having just fallen from the top of a staircase. He had spit blood; several fractures of the ribs were ascertained, both bones of the forearm were broken, and, besides, a severe contusion of the right hip was observed. The pain was excessive, the swelling considerable, the sanguine effusion very great; no movement of the patient could be made, without causing him to utter loud cries, and to resist any effort at examination.

A slight apparent shortening of the limb gave rise, at first, to a fear of fracture of the neck of the femur. M. P. seized the leg, and raising it, easily moved the limb, although the patient, suffering severely, contracted, quite violently, his muscles; the great trochanter followed all the movements of rotation of the femur; no sign of crepitus, no deviation outwards was observed. The absence of these signs caused M. P. to abandon his first idea, and to believe he had to do with a contusion of the hip, complicated with a great extravasation of blood.

Next day, M. Lenoir observed again all these lesions; but the swelling and pain prevented a thorough examination of the state of the hip. The patient had, besides, expectorated pus, and suffered extreme difficulty of respiration, to which symptoms attention was chiefly directed. Under the influence of bleedings, the expectoration of pus ceased; the fractures were united; the swelling of the hip, with the effusion of blood disappeared; but the pain continued, and movements were impossible. A new examination at this time resulted as follows:

The patient was placed upon his back; there was then felt, at the level of the spine of the right pubes, a pretty deep depression, above which, on depressing the abdominal parietes, a pointed, movable, bony tumour could be felt, which appeared to be formed by the horizontal branch of the pubes, which was fractured and elevated; the anterior superior iliac spine was carried more backward and higher than that of the opposite side. A sound passed, without obstacle, through the urethra into the bladder, and the patient experienced no retention of urine. By examination *per rectum*, behind and on the right side irregularities could be observed, which could only arise from fracture of the ischium; above, and also on the right side, by strongly depressing the anterior portion of the rectum, another tumour could be felt, which appeared to be occasioned by a fracture of the pubes: nothing similar on the opposite side. The patient had remained, from the day of his fall, eleven days without a stool.

Upon placing the patient upon his belly, the right buttock was observed to be flattened, soft, depressed; the fold of the buttock had risen about two centimetres, and described a straight line, directed obliquely from above downwards, and from without inwards; that of the left side was horizontal, and described a curved line, with its concavity upwards. The posterior superior iliac spine was about three centimetres higher than that of the opposite side, as were also the crests of the ilium and the ischium. Upon pressing at the level of the left iliac spine, the prominence it forms, and, lower down, the projection of the sacro-spinal ligament, were observable; while at the same points, on the opposite side, a pretty deep depression was found, in consequence of the elevation of the iliac spine, and the rupture of the right sacro-spinal ligament.

An examination of the inferior extremities, showed that that of the right side was shortened, the right malleolus externus being about three centimetres more elevated than the left; but if the measure was taken from the anterior superior iliac spine to the respective external malleoli, the distance was equal on both sides, as it ought to be, since the relations of the coxal bones had changed with the vertebral column alone. All these signs became more evident on placing the patient upon his knees, while bending his body forward.

He was kept in an immovable position. Several days previous to the 15th September, the day on which the case was reported, he had begun to walk with crutches; he bears upon the leg, but gently, it being as yet unable to sustain the weight of the body; he limps, throwing his body strongly over to the sound side; all pain has disappeared. This patient will be cured with a shortening of the right leg. Here, as is evident, the luxation is not simple, being complicated with fractures of the pubes and ischium, which must necessarily occur to enable the coxal bone to experience a general movement upwards, unless separation of the symphysis pubis had occurred. When this separation exists, the symptom noted by Hippocrates, retention of urine, is observed; in this case it was absent, and, indeed, the fracture had left untouched the ligaments which go to the bladder, but there was retention of fæcal matter, which should, perhaps, be attributed to the fracture.

The editor of *L'Expérience* observes, in a note, that these luxations occurred in consequence of very great violence, not in scrofulous patients, easily affected by such a cause, but in strong healthy men, in whom there was no reason to suppose a previous relaxation of the ligaments of the pelvis. The diagnosis of the luxation presented no obscurity, being easily deduced from the elevation of the iliac crest and of the fold of the buttock, the depression of that part, the general shortening of the limb, without alteration of the relations, or of the length of any of its parts, &c. The prognosis of this affection has been considered as very grave by authors, Boyer remarking that, without considering the immediate effects of the external violence, it is constantly followed by an inflammation, of which the consequences may be very serious, as well on account of the extent of the articular surfaces affected, as because it may extend to the peritoneum and the viscera of the pelvis and lower part of the abdomen, or may terminate by a suppuration of the articular surfaces or of the cellular tissue of the pelvis. None of these consequences were, in these cases, observed, and were indicated by him probably rather *à priori*, than from the observation of cases. This surgeon himself cites a case which resembles entirely, in this respect, those which precede.

"The most interesting case known," says he, "of luxation of the hip bones, exempt from these formidable consequences, was observed by Enaux, Hoin and our colleague, Professor Chaussier, and inserted in the collection of the Memoirs of the Academy of Sciences of Dijon. The left os innominatum had been displaced and carried upwards. The inflammatory condition did not allow reduction to be made. After some days, during which relaxing applications and an antiphlogistic regimen were adopted, the replacing of the bones was attempted, but prevented by the return of the pains and inflammatory symptoms. Some days later a new and still ineffectual attempt was made, and was then entirely abandoned. Finally, after prolonged repose, but less so than could have been desired, the patient quitted his bed; and having begun to walk, aided by crutches, the weight of his limb brought about part of the reduction, which had previously been vainly attempted. The cure was perfected and the patient was able to resume his occupation of tiler. This fact proves conclusively," adds Boyer, "that, in cases of this nature, *the most important consideration should not be to seek to cause the reduction*, but to combat, by every possible means, the inflammation and its consequences. Too fortunate to obtain the cure at the expense of whatever possible deformity."

M. Lenoir followed the advice of Boyer; he abstained from any effort at reduction, and, besides, how could you reduce, or, at any rate, how could you maintain, in a state of reduction, a luxation of this kind?

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43. *Singular cause of Error in Diagnosis of Affections of the Knee.*—In the last *Concours* for the chair of Clinical Surgery in the Faculty of Paris, a singular case occurred, the diagnosis of which gave rise to a difference of opinion both amongst the competitors and judges, and in which, moreover, had an error been committed, the result might have been a serious operation. M. A. Bérard, the actual nominee to the chair, thought that he recognized the existence of a foreign body in the knee-joint of a patient affected with hydrarthrosis, and which had fallen to his lot as the subject of lecture. On examination he found, besides an effusion of serum, a distinct circumscribed tumour, of the size of an apricot stone; it rolled under the finger, and was situated at the external side of the knee, above the patella. M. Marjolin, *juge du concours*, did not coincide with this opinion, and affirmed that what was considered as a foreign body was nothing more than an adherent tumour, very often found in those affected with hydrarthrosis: he was ignorant of its nature, never having had an opportunity of dissecting one. M. Malgaigne, one of the competitors, and who, like M. Bérard, believed in the existence of a foreign body within the joint, hastened to examine this tumour on two patients affected with hydrarthrosis, then under his care in the Bicêtre, and he found it exactly the same as in the patient of M. Bérard. One of these patients died shortly after; he thus had an opportunity of determining its nature, and found that the apparently foreign body was nothing

more than a pellet of fat, of a perfectly healthy appearance. M. M. next inquired whether this tumour was entirely the result of inflammation, or whether, previously existing in the natural state, it only acquired an increase of development in consequence of disease? To determine this point he opened a number of healthy knee-joints; in almost all of which he found the above-mentioned tumour, generally on the external side of the articulation, but sometimes on the internal. Its normal existence is no way connected with hydrarthrosis; but it appears to increase in size under the influence of the pain and articular inflammation: it is not found in all subjects affected with hydrarthrosis; but when it does exist during the course of the disease, it continues after the disappearance of the latter; pain on pressure continues longer over the site it occupies than anywhere else, as if the irritation disappeared more readily when the synovial membrane alone is affected than when it spreads to the adjoining adipose tissue.—*Lond. and Edin. Month. Journ. Med. Sci.*, Oct., 1844, from *Encyclographie Méd.*, June, 1844.

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44. *Warty Excrescence near the verge of the anus.* By Edward Daniell, Esq.—(*Prov. Med. and Surg. Journ.*, 9 Oct., 1844.) The excrescence grew on each side of the anus, extending over and filling up the fossa made by the buttocks, and resembled, when those parts were drawn aside, a large orange which had been cleft in twain. It appeared to be non-malignant; but simply an excrescence emanating from the skin itself. As the base of the tumour on each side was equal to its surface, Mr. D. determined to try the effect of a double ligature, employed in the same manner as for common nævus, but only on one side at a time. Sloughing followed this operation, but in so small a degree that Mr. D. saw at once the plan would fail, and therefore resolved to remove the growth by dissecting away the whole of the diseased skin, not only under the tumours, but round about them. The success was perfect; there has been no return whatever of the disease.

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45. *Enormous Steatoma removed from the Shoulder.* By Edward Daniell, Esq. (*Prov. Med. & Surg. Journ.*, 9 Oct., 1844.)—The tumour had existed thirty years, and occupied a space commencing from the top of the shoulder, running over the deltoid muscle, dipping slightly into the axilla, and stopping about the middle of the humerus. It was so exceedingly painful at times, that the man's rest was disturbed by it, and it prevented him from lying on the affected side.

The tumour was removed in two minutes and a half; it was as usual in these cases, a mass of fat, but on opening it, was discovered to have in its centre a deposit of bony matter—a complete ridge of ossific deposit, of about three inches in length. The tumour weighed two pounds and a half, entire, and as many little portions of fatty matter were taken away after the removal of the bulk, it is fair to infer that the whole tumour was little short of three pounds. It was only necessary to pass a ligature round the main vessel, which might perhaps be about the thickness of a crow-quill. The patient did well, and has not suffered in the least since the operation.

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46. *Operations for removal of Ovarian Tumours.*—Dr. Jeaffreson has given in the *London Medical Gazette*, (Oct. 18th, 1844,) a table of 74 cases, in which the removal of ovarian tumours has been attempted, and the following are the results:

In 37 cases the tumour was removed, and the patients recovered.

In 24 cases the operation was followed by the death of the patient: of these 24 fatal cases, the tumour was removed in 14, could not be removed on account of adhesions in 6, and was found to be other than ovarian tumour in 4 cases.

Thus, again, in 74 cases in which the operation for extraction of ovarian tumour has been undertaken, it has been completed in 51 instances, in 14 out of which 51 instances it has been followed by death, and in 37 by the successful removal of the tumour and the recovery of the patient; whilst out of the 74 cases selected, it was found impossible to carry out the intentions of the operator in 23; or, in other words, the diagnosis was not sufficiently accurate to enable the surgeon to foresee the impracticability of carrying out his intentions. Of these 23 cases, 13 recovered with life, to remain *in statu quo;* 10 died. The cause of failure was impossibility of removing the tumour on account of adhesions in 14 cases; no tumour was found in 3 cases; and the tumour proved to be other than ovarian in 6 instances.

"One cannot but be struck," he remarks, "at the very first glance, with the prodigious proportion—23 out of 74 cases—in which an insufficiency of diagnosis led the operators to attempt that which was in reality impracticable. When such a surgeon as Lizars, backed by all the talent nearly of Edinburgh, has opened the abdominal cavity to remove an imaginary tumour, it cannot be doubted but that many and great difficulties surround this part of the subject."

The following are Dr. Jeaffreson's deductions:

"1st. It has been sufficiently established, that the extirpation of ovarian tumours is practicable, and that nature is competent to effect the great processes of repair, which so serious an operation demands.

"2dly. That as the mortality attendant upon these operations has been shown to be greatly heightened by taking into consideration the cases in which, from previous errors in diagnosis, the tumours have been found to be other than ovarian; or, being ovarian, from adhesions or other causes could not be removed; increased diligence and attention are required on the part of the surgeons to the previous diagnosis.

"3dly. That the modes of operating, after-treatment, &c., demand the *careful* and *impartial* consideration of the surgeon, as greatly affecting the possibility of completing the operation, as well as its ultimate result.

"4thly. That as whatever future improvements may diminish the risks of the operation, it must ever be considered one of great imminence, it cannot be recommended excepting in those cases in which the bulk of the tumour is productive of much misery and inconvenience; and is already inducing such constitutional disturbance as to threaten some probable limit to the existence of the sufferer.

"5thly. That however much assistance he may derive from general rules, the propriety of operating in each case must be decided with a due consideration of the merits and peculiarities of the case in question. A few rash operations must inevitably bring discredit upon the measure, however useful and valuable it may be when conducted with prudence and judgment.

"6thly. The fluid forms of tumour are the most appropriate for operation. They are generally the most rapid in their growth, and frequently refill with great rapidity after their evacuation by paracentesis. The risks of adhesion are less; as also the probabilities of mistake in diagnosis; or of other organs being diseased. Remedies, too, have the least power in the cure of this form of affection. In the monolocular variety, the operation could hardly be recommended, so long as tapping afforded perfect relief, and the fluid was very slow to reaccumulate. The multilocular form of disease is by so much the more appropriate for extirpation, in that tapping is attended with greater risk, and is calculated to afford but a limited degree of relief.

"7thly. The mixed forms of tumour are the least appropriate for extirpation; and proportionately so as they contain a greater amount of solid matter. There is a greater risk of adhesions, and also of errors of diagnosis; the opening required for their removal must be large in proportion to the mass of solid. The more solid tumours, if of an inert character, are slower in their growth, and *may* never induce much suffering or risk of life. Their cure is sometimes effected by nature or well-directed medical skill. Their growth sometimes is suddenly arrested, and they continue stationary and comparatively innocuous.

"8thly. Somewhat in exception to the last conclusion respecting the more solid but indolent ovarian tumours, it becomes questionable whether their removal may not be sometimes desirable, when their presence has induced ascites. Ascites thus caused can rarely be permanently cured by medical or surgical means, so long as its exciting cause continues in existence; and life will, I believe, rarely be much prolonged under such circumstances. In the 45 cases above related, in which ovarian tumours were removed by the major operation, ascites is actually stated to have complicated 8 cases; in all the ovarian tumours were of the mixed character; and in 6 out of the 8 cases, the operations were successful.

"9thly. Extirpation cannot, with propriety, be recommended when the least suspicion exists of the malignant character of the disease; or when it is of strumous origin, and is connected with scrofulous disease of other organs, as the absorbent glands, joints, internal viscera, &c.

"10thly. In recommending the operation, it may not be amiss to view it as a means of removing an enlarged growth, which, whether solid or fluid, is producing misery and risk to life, chiefly by its mechanical inconvenience of bulk, or its drain upon the system: hence the surgeon will be alike cautious of operating in those cases in which the local disease, indolent and slow in its growth, produces comparatively little inconvenience and risk; and in another and very opposite condition of things, in which, without his being able to discover precisely the cause, the constitution appears shattered and impaired, in a degree disproportioned to the extent and importance of the local disease. In such cases, there is too great reason to fear that there is more mischief going on in the system than would be removed with the extraction of the ovary. The cases No. 4 and 6, as related above, are to this effect, in which it is hardly reasonable to suppose that the removal of the ovaries, even at an early stage of the disease, would have long retarded their fatal termination."

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47. *Removal of a Diseased Ovary.*—Dr. Frederic Bird records, in the number of the *London Medical Gazette*, for August 16th, another case in which he has successfully practised excision of a diseased ovarium. The patient was twenty-one years of age, and had laboured under the disease three years. The method of operating was the same as in his previous cases. The length of the incision was four inches; the cyst was punctured, and after its contents were evacuated, its pedicle was transfixed by an instrument carrying a double ligature, firmly secured, cut through, and the tumour removed. The entire weight of the tumour was twenty-nine pounds. Its contents "had a specific gravity of 1007, a light amber colour, and contained but a very small quantity of albumen. The tumour appeared to have had its origin in a single vesicle of De Graaf, as lying upon its external surface could be distinctly seen the greater part of the ovarium, which, with the exception of increased density, did not present any marked evidences of morbid change. The Fallopian tube passed up along the posterior part of the tumour to the extent of ten inches, not closely attached, but apparently connected by a fold of broad ligament; its fimbriated extremity was free, and very perfect. The sac was abundantly covered by minute vessels running in the same direction, but not freely anastomosing; they were chiefly derived from one large trunk, which passed immediately beneath the Fallopian tube, but also in part from two branches of less size contained in that portion of the broad ligament in contact with the sac. The thickness of the walls of the cyst varied, being thinner at the superior portion, denser at the inferior, the parietes in the latter region having a thickness of nearly half an inch. Within the parent cyst a large number of secondary cysts were developed, for the most part of small size, and containing fluid secretion of darker colour than that by which the former was filled. The whole internal surface had a dark congested hue, and the part corresponding to the attachment of the pedicle was of an almost black colour; this appearance being in a great measure due to the presence of many venous trunks, of rather large size, into which numerous smaller vessels passed."

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48. *Ununited fracture successfully treated by Acupuncture.*—The *Gazette des Hôpitaux* quotes from the *Giornalle per servire ai Progressi*, a case of ununited fracture successfully treated by acupuncture. The patient was a young man, twenty-six

years of age, of good constitution. Both bones of the forearm were fractured, and after nine weeks no union had taken place. M. Wiesel then introduced between the two ends of the ulna two needles, sufficiently long to traverse entirely through the false joint, and retained them in this position for six days. They were then withdrawn, their presence having produced pain and considerable swelling of the part. Fifteen days afterwards, M. Wiesel repeated the same operation on the radius. A simple bandage was applied to the limb, and in six weeks reunion was complete.

49. *Luxation of the Forearm forwards without fracture of the Olecranon.*—This is supposed, by most surgeons, to be impossible. M. Monin has, however, recorded an example of it in the *Journal de Médecine de Lyon.* It occurred in a boy, between six and seven years of age, and resulted from a fall. It was reduced by the following plan. The shoulder was fixed by bands. The forearm being then strongly bent on the arm, M. M. placed his hands in the bend of the arm with his fingers crossed on the palmar face of the forearm, and drew this part downwards and backwards.—*Journ. de Méd. et de Chirurg. Prat.*, Feb., 1844.

50. *Influence of Traumatic Lesions of the Spinal Cord on diseases of the urinary passages.*—M. Segalas read a memoir on this subject to the French Academy of Medicine, founded on two cases of traumatic lesion of the spine, of which the following is an abridged account.

In July, 1839, a shoemaker, named Lamarre, fell into a cellar at Saint Denis: he was taken up insensible, and brought home to Paris. On examining the dorsal region, the apophysi of the fifth and sixth dorsal vertebræ were found abnormally prominent; there was complete paralysis of sensibility and myotility as high up as the umbilicus, and retention of urine and fæces. The catheter was introduced several times a-day, and the urine remained clear; a slough formed on the sacrum, but the body having been supported by stays and straps, it gradually healed. After fifteen months' treatment, Lamarre left Paris to live in the country; there was then retention of the urine and fæces, and the paralysis was as complete as at first. He is now still in the same state; he experiences occasionally, as it were, electrical shocks, which make his limbs jump; but the only sensation experienced is that of a trembling in the abdomen. The fæces are retained, but he labours under a kind of incontinence of urine. He has become very fat, the paralyzed limbs participating in the change. For some months after the accident, he was troubled with frequent erections; they have since subsided, but he has now venereal desires. He is in excellent spirits.

In May, 1840, a jeweller, thirty-seven years of age, fell from a tree on the loins. He immediately experienced a pricking sensation in the abdomen and the lower part of the body, and on attempting to rise, found that the abdominal limbs were paralyzed. There were no external lesions; the urine and fæces were retained. In spite of lengthened treatment, the paralysis remained the same six months after the treatment. A sound was left permanently in the bladder, and changed every ten days. At the end of the third month, the urine, which till then had been clear, became catarrhal, and the sounds were incrusted with phosphatic concretions. Under the administration of strychnine and the tincture of cantharides, sensibility began to return, firstly in the thighs, and then in the legs and feet. In the space of a few weeks the patient moved his limbs, and he became able to walk with crutches. During this time incontinence of urine succeeded to the retention. A phosphatic stone had formed in the bladder; it was destroyed by lithotomy. With this patient, erections commenced a few days after the accident. He is now able to accomplish the sexual functions; the testicles present their ordinary volume. He still labours at the present time under incomplete paralysis.

Following out the idea suggested by these cases, M. Segalas has made a number of experiments on living animals, in order to ascertain what is the physiological influence of the spinal cord on the functions of the genito-urinary organs. He firstly analyses the facts by which Krimer, quoted by M. Ollivier d'Angers in his work on "Spinal Diseases," endeavours to establish, experimentally, that the secretion of the urine is modified by lesions of the spinal cord; and details his own experiments, which prove, on the contrary, that every portion of the spinal marrow may be successively destroyed without the secretion of the urine being suspended or even sensibly diminished, provided, on the destruction of the cervical portion, respiration be artificially kept up.

M. Segalas then examines what is the influence of traumatic lesions of the spinal cord on the composition of the urine. He has found, as the result of his experiment, that the section of the cord, either in the lumbar region or at the lower part of the cervical, has no constant influence on the quantity of urea in the urine, or on that of the phosphates, of the sulphates, of the uric acid, or of the mucus, and that if the urine be modified by this operation, which he considers doubtful, it is in a very diversified manner. He therefore thinks that the modifications which Krimer says occur in the constitution of the urine. after severe injury of the cord, cannot be considered constant. M. Segalas recapitulates the results of his researches and his opinions on the subject in the following propositions:—

1. Traumatic lesions of the spinal cord do not prevent the secretion of urine.
2. Nor do they directly modify its composition.
3. The change in the composition of the urine which shows itself subsequently, is the result of the catarrhal inflammation of the bladder. This inflammation is itself produced by the lengthened presence of the urine in the organ, or by the action of the permanent sound, and that with or without the assistance of other causes.
4. Traumatic paralysis is always primarily complicated by retention of urine. The incontinence which follows, if proper treatment be not resorted to, is, at first, the result of over-distension of the bladder, and subsequently of the inflammation which supervenes.
5. Traumatic lesions of the spine do not arrest the secretion of sperm.
6. They do not sensibly alter its composition.
7. They are often attended with erections without desires, which are sometimes followed by desires without erections.
8. They do not always prevent sexual intercourse.
9. They do not prevent conception or gestation, but when such lesions exist, artificial means become necessary to accomplish parturition.

By these propositions M. Segalas evidently means to assert that the spinal cord exercises little or no influence on the functions of the kidneys, the testicles, or the ovaries, whereas it keeps under its immediate control the bladder, the seminal vesicles, and the uterus.—*Lancet*, Oct. 19, 1844.

51. *On the Treatment of Syphilis by tartar-emetic.*—Dr. Willebrand was induced to make trial of tartar-emetic in the treatment of syphilitic complaints, in the military hospitals, from observing the rapid removal of a blenorrhœa in a patient who was using that medicine for an attack of rheumatism. On trying the efficacy of this medicine on a large scale, he found that urethral discharges were, in general, removed in from six to fifteen, or, at the most, twenty days. It was, however, in the cure of true syphilis that this medicine was found of superior efficacy. Cases of primitive chancre were cured by the internal use of tartar-emetic alone, in from ten to twenty-days, no application having been made to the sore but simple water dressing. In a few cases, in which there was much induration of the base of the sore, a cure was not effected. In thirty cases of secondary affection, under the form of ulcerations of the throat, &c., all symptoms of the disease disappeared in from eleven to fifteen days. The tartar-emetic was, however, continned, as a precautionary measure, for five or six days longer, after which the medicine was discontinued; and though two, and, in some instances, three years have since elapsed, no relapse has occurred among all these cases. Most of the cutaneous affections rapidly and easily yielded; but some of the more inveterate ones, as the pustular and squamous syphilitic eruptions, required from twenty to twenty-eight days for their re-

moval. In some of these, from the antimony disagreeing, it was requisite to intermit its use.

In all the cases, the tartar-emetic was administered internally in the same manner, viz., half a grain six or eight times a-day. The first doses generally produced vomiting; but by the second day tolerance was produced. When this large dose seemed to disagree, an eighth of a grain was given in the same manner, but then it often failed to effect a permanent cure. Cleanliness, repose, an equable temperature, and regulated diet were the only adjuvant means used; and Dr. Willebrand thinks that these cases show, that, in very many cases, the tartar-emetic may be substituted with advantage for the more dangerous mercurial treatment.—*Edin. Med. and. Surg. Journ.*, October, 1844, from *Gaz. Méd. de Paris*, April 6th, 1844.

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52. *Case of recovery from wound with Hernia of the Lung.* By Dr. Barbieri.—A boy, thirteen years of age, fell from a tree upon the point of a hay fork, which tore up the right side of the anterior part of the chest between the fifth and sixth ribs. The wound was transverse, about three inches in extent, and through this projected a considerable piece of the lung, also wounded in a transverse direction. There was a frequent cough with a gurgling sound in the bronchial tubes, but no bloody expectoration. The usual phenomena of a severe accident were present. The lung was reduced, the lips of the wound brought together by suture, and, by following an antiphlogistic regimen, the patient recovered without a bad symptom.—*Ibid.*, from *L'Expérience*, August, 1844.

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53. *Popliteal Aneurism in a child.*—Professor Syme relates, in the *Lond. and Edin. Month. Journ. Med. Sci.*, (October, 1844,) a case in which he successfully tied the femoral artery for popliteal aneurism, in a boy only nine years of age. The disease had been first noticed two years previously. Sir Astley Cooper states that the earliest age at which he has met with aneurism was eleven years.

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54. *Epidemic Erysipelas.*—Dr. Rognetta states, in the number of his *Annales de Thérapeutique Médicale et Chirurgicale*, for June last, that erysipelas prevails in all the hospitals of Paris. At the Hotel-Dieu, at Beaujon, at St. Louis, and at La Charité, erysipelas, he says, is general. The slightest contusion, the least irritation, the puncture of an abscess, promptly give rise to erysipelas, which often runs a fatal course.

At the Hôpital Vénériens, the disease, in many cases, affects the peritoneum, and terminates fatally. At La Charité, it constantly assumes the phlegmonous form, and is very formidable, and frequently fatal. Of four patients recently treated in the service of M. Gerdy, for contusion of the elbow, every one was seized with severe phlegmonous erysipelas, with sphacelus of the subcutaneous cellular tissue. At St. Louis, the epidemic has assumed even a still more terrible form, that of *hospital gangrene*. At the Hotel-Dieu punctures from bleedings, or from leech bites, inflame, suppurate and terminate in fatal phlebitis; or they induce erysipelas, which extends to other parts and occasions very dangerous symptoms. Abscesses of little consequence, which at other times would heal in a few days, become a source of phlegmonous erysipelas after being opened, which requires a long treatment and the protracted stay of the patients in the hospital, even, indeed, if they do not fall victims to it.

The treatment has been antiphlogistic in all the hospitals. M. Gerdy has employed deep scarifications; M. Blandin leeches, in great numbers, along the course of the vessels and over any engorged glands which may exist. M. Jobert treats the disease with frictions, with an ointment of nitrate of silver, which he regards as a powerful antiphlogistic, and M. Rognetta says that the disease is *constantly* limited by it. M. Jobert employs the ointment of three degrees of strength, according to the intensity of the disease; the proportions are four, eight and twelve parts of the salt, to thirty parts of lard. This ointment is copiously applied over the whole part affected with the disease, even the whole body if necessary, which gives to the patient the appearance of a negro, but no injury has ever resulted. M. Rognetta says that he has seen, in the service of M. Jobert, cases of extremely severe erysipelas arrested and cured, as if by enchantment, solely by the use of this ointment.

55. *Mortality attending the Operation of Tying the large Arteries.*—Mr. Thomas Inman, of Liverpool, gives, in *The Lancet*, (October 5th,) the following table, drawn out after carefully examining all the medical periodicals for a long series of years:—

Artery subjected to ligature, &c.	No. of cases.	Deaths.	Proportion.
Cases collected by Phillips from the works of Boyce, Lancisi, Scarpa, Pelletan, &c., where old operation was performed:—			
Femoral tied,	22	6	1 in 3¾
Humeral tied,	7	1	1 in 7
Hunterian operation:—			
Ligature of arteria innominata,*	6	6	all die
Ligature of subclavian,	40	18	1 in 2
——— of carotid,	40	11	1 in 4
Abdominal aorta,	3	3	all die
Common iliac,	8	3	1 in 2⅔
Internal iliac,	4	2	1 in 2
External iliac,	27	9	1 in 3
Femoral,	42	7	1 in 6
Total,	199	66	1 in 3

56. *Fibrous Tumour of the Parotid.* By Prof. Vanzetti, of Karahoff, (Russia.) (*Annales de Chirurgie*, Aug., 1844.)—The patient was a man 40 years of age, and the tumour weighed three and a half pounds. It was extirpated, and the patient left the hospital cured on the 20th day, with only a slight paralysis of the face.

57. *New Operation for Varicocele.*—M. Videl (de Cassis) has communicated to the French Academy of Medicine the following operation for varicocele:—

An incision, of a line or two in length, having been made in the scrotum, so as to include a fold of the skin, a small silver thread is passed behind the veins of the cord, and a second thread, of the same metal, through the same apertures, anteriorly to the vein. The extremities of the two threads are then united and twisted, on each side, until the space which separates the veins is so reduced as to strangulate them.

The twisted metallic thread, which thus embraces the spermatic veins, is then turned a certain number of times, so as to roll the veins on its axis. When this rolling of the veins appears to have been carried to a sufficient extent, the two free extremities of the metallic ligature are brought forward, crossed and twisted on a small roller bandage. A metallic sound, or a piece of stick, being placed in the angle formed by the union of the twisted extremities, constitutes a kind of tourniquet, by the means of which pressure is applied to the veins, and daily increased, until they, and the parts comprised between the thread and the bandage, are entirely divided: this generally takes place in from ten to fifteen or twenty days, and the cure is completed in the space of from one to two months.

M. Velpeau, in behalf of a committee to whom the subject was referred, in his report states, that they do not consider M. Vidal's operation easier, less complicated, or less dangerous than those usually resorted to, but that it may prove more efficacious in its subsequent results from an extensive destruction of the veins.

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* The only successful case, if so it may be called, is related by Mr. Porter, of Dublin, where the artery was cut down upon and found too much diseased to bear the ligature; the wound closed readily, and the aneurism was cured.

58. *Mortality attending the Operation for Hernia.*—Mr. Thomas Inman has published in *The Lancet* (Oct. 5) the following table, showing the mortality attending the operation for hernia:—

Where, or by whom recorded, &c.	No. of cases.	No. of deaths.	Proportion.
In Sir A. Cooper's work on Hernia, - -	77	36	1 in 2
By Travers, - - - - - - -	14	8	1 in 1½
Dewar, of Dunfermline, - - - -	17	4	1 in 4
Scarpa (on Hernia), - - - - -	16	5	1 in 3
Lawrence (on Hernia), - - - -	22	7	1 in 3
Clement, - - - - - - - -	8	3	1 in 2⅔
Hey (he performed the operation forty times, but no detailed account is given of all the cases), - - - - - - - -	12	6	1 in 2
Wurtzburg, from 1816 to 1842, - - -	56	24	1 in 2½
Recorded in different periodicals as isolated cases, &c., - - - - - - -	88	30	1 in 3
Malgaigne's, Hospitals of France:—			
Patients between fifty and eighty years of age, - - - - - - - -	97	70	1 in 1¼
Other ages, - - - - - - -	86	44	1 in 2
Guy's Hospital, from September, 1841, to December, 1842, - - - - - - -	19	10	1 in 2
Scotch hospitals during 1843, - - -	11	3	1 in 3⅔
Cases witnessed by the author, - - -	6	3	1 in 2
Liverpool Infirmary, for two years, - -	4	1	1 in 4
Liverpool Northern Hospitals—nine years, -	12	6	1 in 2
Total, - -	545	260	1 in 2

59. *Immovable Bandages of Starched Paper for the Treatment of Fractures of the Limbs.*—By M. Laugier.—Bands of starched paper are arranged as in Scultets' bandage, and form three super-imposed layers. The limb is placed upon these, and after the fracture is reduced, the bands are applied. Other bands of paper, also starched, are applied around the foot, and extending up the leg so as to form a boot, accurately moulded to the part. After drying, which is obtained in twelve hours in summer, and twenty-four hours in winter, by the aid of heated balls or bricks, this apparatus forms a very solid and light mould, which allows the patient to move in bed. Before drying, this bandage is firmer than the ordinary Scultets': the patient, however, must be perfectly quiet for some hours after its application. It can never be too tight; it is suited to every stage of fracture, even to fractures complicated with wounds. But in the latter case, the limb must be first enveloped in gum-elastic cloth, in a single piece, to preserve the paper from the pus, which softens it. Surgeons who have used this, are pleased with it. It may be employed in all cases to which the immovable apparatus is applicable:—it cannot, however, be used for effecting compression: it is useful principally to secure the immobility of fragments, and painful parts. It commends itself by its lightness and its cheapness; the latter of some importance for poor patients, in the country, and in charitable institutions poorly provided with bandages.—*L'Expérience,* 1 Aug., 1844, *Extrait des titres du Docteur Laugier.*

60. *Gunshot wound of the Chest,—evacuation of the ball per anum.*—(*L'Expérience*, 4 July, 1844.)—Dr. Cox records in the *Repertorio medico-farmaceutico de la Societad de Emulation de Barcelona*, March, 1844, the case of a boy fifteen years of age, who was shot from a height, the ball penetrating the chest on the left side, at the middle of the sixth rib, fracturing this bone. He was taken to the Hospital of Barcelona. Fever came on, with bloody expectoration, difficulty of breathing, and pain in the chest; notwithstanding an energetic treatment, the respiration became more and more difficult, and the patient died on the twelfth day. But what was curious, was, that the patient passed the ball per anum on the sixth day, without ever having presented the slightest symptom of any irritation in any part of the alimentary canal, or of effusion of any fluid in the thoracic or abdominal cavity, or of lesion of the diaphragm. On *post mortem* examination it was found that the ball had passed from the base of the lung into the stomach, and adhesions had formed between the diaphragm and stomach. The opening in the stomach was round, the whole of the left lung adhered to the costal pleura, and was infiltrated with pus.

61. *Discharges from the Ears.*—Mr. Wilde, of Dublin, has written [*Dublin Journ. Med. Sci.*, Jan., 1844,] a most excellent treatise on the causes and treatment of otorrhœa, chiefly dwelling on the affections of the external tube and external surface of the membrana tympani. There are few diseases which are more frequently neglected and carelessly treated than those of the external ear; and few which, when allowed to proceed, entail more inconvenience on a patient during the remainder of his life. In simple otorrhœa Mr. Wilde paints over the surface with a solution of nitrate of silver, ten grains to the ounce, applied with a fine camel's hair pencil, either to the whole or a portion of the surface, according to the extent of the disease. This is repeated every third day, and in the interval the ear is syringed night and morning, and oftener if the discharge is copious, with plain tepid water, by means of a gum-elastic bag, which, when used by friends, is much preferable to the usual piston syringe, and at night a slightly astringent lotion is dropped into the ear till it fills up the meatus, and allowed to remain there for a few minutes. For this purpose we may use liq. plumbi diacet ʒi. to one ounce of water or rose water; or weak solutions of alum, copper, or chloride of lime. But otorrhœa is often exceedingly difficult to cure, owing to its being caused by morbid vascular growths, such as granulations on the membrana tympani, which are allowed to proceed undiscovered. In such a case the part appears quite red and vascular, and Mr. Wilde recommends the application of the solid nitrate of silver, rubbed over the part about every second day, or oftener if necessary; and for this purpose he uses a very neat little instrument which is five and a half inches long, consisting of a silver tube, cut spirally for three-fifths of its length, and having an aperture on the side near the extremity. In using this *port-caustic*, a little nitrate of silver is melted over a lamp on a small platina ladle, and then, when about cooling, the end of the *port-caustic* is dipped into it till the aperture and extremity are filled and coated over with the caustic. We often find, however, that discharges from the ear are kept up by polypi, which it becomes necessary to remove; and for this purpose Mr. Wilde recommends a little instrument, first recommended, we believe, by Mr. W. Robertson, surgeon to the Kelso Dispensary. It is a small snare-like apparatus, consisting of a fine steel stem, with a movable bar sliding towards the handle. It is so constructed that a noose made of fine silver or platina wire may be pushed down to the polypus, so as to surround and ensnare it. The morbid growth may thus be safely and cautiously taken away, either in part or wholly, and by the regular application of the armed *port-caustic* from day to day, all trace of the growth may ultimately be extinguished.—*Braithwaite's Retrospect*, 1844.

62. *Bursal Swelling of the Wrist and Palm of the Hand.* By James Syme, Esq.—There are few subjects of surgical practice that have occasioned more trouble and disappointment than morbid distension of the bursa, which accompanies the

flexor tendons of the forearm, in their course under the annular ligament of the wrist, towards the fingers. The resistance of the ligament prevents any enlargement of the bursa where lying under it; but the wrist and palm become distended, so as to occasion an unseemly swelling, and weakness of the hand. The fluid effused into the cavity is generally associated with numerous small cartilaginous-looking bodies, of a lozenge or lenticular figure.

In treating this form of ganglion, the means generally employed prove very unsatisfactory in their effect. Blisters and pressure are altogether unavailing. Punctures either heal without producing any improvement, or remain open, so as to occasion obstinate sinuses. Incisions of larger extent, caustics, and setons, have all been carefully employed with very uncertain benefit, and frequently great suffering; indeed I have known the continued irritation so induced prove fatal. As the treatment of similar derangements in other parts of the body is not attended with such troublesome consequences, the question naturally presents itself, what local peculiarity is concerned in causing the obstinacy of this particular case? The reply suggested by what has fallen within my observation is, that the constriction caused by the annular ligament produces the effect in question, by preventing the portion of bursal sac corresponding to it and the subjacent tendons from undergoing the healing process. Impressed with this conviction, I tried the following experiment, the complete success of which encourages me to hope that the method pursued will be found to afford an effectual remedy for a complaint which has hitherto proved so troublesome.

Janet Preston, aged 20, was admitted on the 13th of February, complaining of pain and weakness in her left hand. The wrist and palm of the hand were much swelled, but not discoloured, and pressure on these parts caused distinct fluctuation, with the jarring sensation that characterizes effusion into the bursal sheaths. She stated that pain had been first felt about two years before, and that for the last twelve months she had had hardly any use of the hand, in consequence of the swelling and weakness attending it.

I made a free incision from the wrist into the palm of the hand, dividing the annular ligament. This gave vent to a quantity of glairy fluid, with many small flat cartilaginous-looking bodies, and exposed to view the flexor tendons, separated and surrounded by thickened bursal membrane. The cavity was filled with dry lint, supported by a bandage moderately compressing the hand and wrist. In the subsequent treatment care was taken to prevent protrusion of the tendons, by drawing the edges of the wound together, and applying a compress over the seat of the annular ligament. Not the slightest disagreeable symptom followed the operation, and three days after it, the patient was able to sew, which she had been prevented from doing for many months previously. In the course of a few weeks the wound healed, and the limb was in every respect perfectly sound.—*Lond. & Ed. Month. Journ. Med. Sci.*, Oct. 1844.

OPHTHALMOLOGY.

63. *Epidemic Ophthalmia.* (*Archives Générales*, June, 1844.)—M. Morant, in a memoir, addressed to the French Academy of Medicine, on an epidemic ophthalmia, which prevailed in the depot for young criminals at Mettray, states, that in almost every case the disease commenced as coryza, and that the Schneiderian membrane was inflamed in a great number of cases. This led him to believe that inflammation of that membrane was a frequent cause of ophthalmia, especially in young persons, and induced him to treat the disease by the application of nitrate of silver, either in a solid state, in concentrated solution, or in the form of ointment to the mucous membrane of the nose twice daily during the acute stage of the disease, and subsequently once a day. This treatment, he asserts, succeeded while all the means usually employed failed.

[While we cannot but feel some doubts as to the correctness of M. M.'s pathological views, it is far from improbable that the treatment he has adopted may be useful in some cases, and it is certainly worthy of a trial.]

64. *New method of curing Lachrymal Fistulæ and Chronic Lachrymations reputed incurable.* By Dr. PAUL BERNARD, (*Revue Méd.*, Dec., 1843.)—This method consists in the ablation of the lachrymal gland, and Dr. Bernard relates one case in which he resorted to it with success. The patient was a man 30 years of age, who had had lachrymation of the left eye for ten years, during which period he underwent various methods of treatment without receiving any relief. The eye was so constantly suffused with tears as to render vision with it indistinct. After trying various means without success, Dr. B. excised a portion of the lachrymal gland. This having afforded some relief, though it did not effect a cure, two months afterwards Dr. B. extirpated the remainder of the gland. The result, he says, was perfectly satisfactory. Dr. B. says, that though every vestige of the left lachrymal gland was removed, the left eye was more moist than the right, and, what is still more extraordinary, that the left nostril, which had been dry for ten years, has become at times moist.

[It will require much stronger evidence of the advantages of this operation, than has been adduced by Dr. B., to lead us to prefer it to the already recognized means of treating lachrymation, and which we have reason to regard as much more frequently successful than is represented by him.]

65. *Cyst attached to the anterior surface of the Iris.*—A very interesting case, in which there was a cyst attached to the anterior surface of the iris, is recorded in *The Lancet*, (Aug. 31, 1844,) by JOHN DALRYMPLE, Esq. The subject of the case was a fine, healthy-looking girl, 16 years of age. When about 13 years old, she first observed a clear, transparent speck, the size of a pin's head, at the inner border of the cornea, within the anterior chamber of the left eye, unaccompanied with pain or redness. It remained stationary, and her vision was unaffected until six weeks ago, since which time it has increased rapidly, and her sight has rapidly declined. Her health was perfectly good. When she came under Mr. D.'s care, there was in the anterior chamber of her left eye, "a roundish or slightly oval body, cystiform in appearance, semi-transparent or gelatinous-looking, adherent to the ciliary border of the iris, at the inner side. It was attached also to the internal junction of the cornea and sclerotica, but its superior, outer and part of its inferior border, appeared to be free. This body was not unlike a dislocated lens just commencing to become opaque, but not so round, nor was it movable. It occupied rather more than half the anterior chamber, extending in front of the pupil, which was nearly shut out and dimly seen through the semi-transparent mass. The tumour appeared to be in contact with the concave aspect of the cornea, but the outer border free and slightly undulated or crenated, the extreme edge of which was of a bright brown colour, while the rest of the mass was merely of an opaline tint. The outer margin of the pupil was just seen behind, and the iris, so far as it was visible, appeared bright, of a healthy hazel colour and possessing its ordinary fibrous aspect. There were a few tortuous vessels on the lower part of the sclerotic coat, but, upon the whole, little or no vascularity was present. The eye, however, was irritable, with a good deal of lachrymation.

"The actual character of this tumour not being very distinct, she was placed upon a mild alterative mercurial course, rather for the purpose of watching the case, than with any hopes of absorption taking place. During the few succeeding weeks the tumour appeared but very slowly to increase, and she was directed to go home, and return again in the commencement of the warm weather. She, accordingly, again presented herself in the early part of May, and the mercurial plan, combined with counter-irritation, having failed to check its progress, she was admitted an in-patient, under the care of Mr. Dalrymple, on the fith of June, 1844.

"It was now resolved to puncture the tumour, its cystiform character being more apparent from the body becoming more transparent as it increased; and it was hoped, if the contents could be evacuated without discharging the aqueous fluid of the anterior chamber, the increase of this latter fluid, on the removal of the pressure of the tumour, would cause the sides of the cyst to collapse, and, perhaps, prevent its re-accumulation. A broad needle was introduced, on the 5th of June, into the lower and inner part of the cyst, at the point where it seemed most adherent to the circumference of the cornea. The needle being turned upon its edge, a semi-opaline fluid, of a saponaceous feel, was evacuated, and the cyst, sensibly shrunk, left the pupil nearly wholly exposed. Two-thirds of the iris were now seen, the pupillary margin was quite free, and vision at once restored.

"Slight irritation followed this puncture, and required the application of a blister, but on the following day the cyst had filled again nearly to its former size.

"On the 8th the pupil was again partially seen, and from this time to the 19th of June, the cyst gradually decreased, until about two-thirds of the pupil were visible. The cyst had also become much more transparent, and it could now be seen that a considerable opening in the iris existed at the inner side, around the margin of which the cyst was firmly adherent. In proportion as the cyst diminished, the aqueous fluid of the anterior chamber increased, and all irritation resulting from the operation subsided.

"On the 22d of June the needle was again introduced, and the whole of the contents of the tumour were evacuated, and on this occasion nothing was left but the flocculent-looking membrane of the cyst. It was not deemed advisable to attempt the extraction of this, inasmuch as it was hoped the pressure of the increasing natural aqueous secretion would cause a total collapse of the walls of the tumour.

"On the 26th the cyst appeared perfectly empty, and its fine membranous walls were flattened, apparently adhering to the concave aspect of the cornea, and so transparent that the iris could be easily seen through this filmy obstruction. It was now evident that a considerable gap existed on the inner side of the iris, reaching nearly to the pupillary edge, which at this part was irregular, and rolled up, as it were, upon itself. The opening which thus existed in the plane of the iris was traversed by fibrinous or membranous bands, and to this the base of the cyst evidently adhered.

"*July* 6. The cyst remained empty, its membranous parietes still more transparent. The pupil round, black and unobstructed; vision good; no irritation existing."

MIDWIFERY.

66. *Cæsarian operation performed with success both for the mother and child; rupture of the uterus and of the abdominal parietes thirteen months subsequently, during a second pregnancy; delivery of the fœtus through this spontaneous opening; complete recovery of the mother.*—This very extraordinary and, we believe, unique case, is related, by Dr Prael, director of the Obstetrical Institute of Hildesheim, in *Neumeister's Allgem Repertorium der gesam. Deutsch Med. Chirurg. Journalistik*, for June, 1844. We abridge the details from the *Archives Générales*, for Sept. 1844.

The subject of the case was a woman, twenty-eight years of age, who had a deformed pelvis, resulting from rickets, which prevented delivery per viam naturalem. The Cæsarian operation was performed on the 11th January, 1842, and a live infant extracted, which, however, died when nine days old with trismus. The mother slowly recovered without any alarming symptoms. The wound did not, however, completely cicatrize for two months. The menses reappeared about the middle of August, and the patient left the hospital in good health, on the 17th of September. The cicatrix was five inches long, and from a half to three-quarters of an inch broad.

Notwithstanding all the dangers of her first labour, she became again pregnant on the 1st of January, 1843. For the first four months which followed, she was so well that she was only rendered sensible of her pregnancy by the motions of the fœtus in the twenty-first week of utero-gestation; these movements were accompanied with very severe pain in the back, but continuing only a few minutes, and which distressed her the less, as she had experienced the same when sixteen years of age. Nor was she any more concerned about a tumefaction of the skin with a small ulcerated spot which had appeared some time before upon the right side of the abdomen, about a hand's breadth from the cicatrix left by the Cæsarian section. This ulceration seemed to enlarge daily, discharging pus and sometimes blood: it gave little or no pain. On the 14th July, having taken cold, she had fever with pain in the sides, back and abdomen. Dr. Schrœder, who was called to see her, felt so distinctly the infant through the abdominal parietes, that he at first thought it an extra-uterine pregnancy. That night she had pains resembling those of labour, but they soon ceased. She soon recovered from this attack, but the motions of the fœtus were no longer perceptible. On the evening of the 18th July, she experienced an urgent desire to go to stool and to urinate. She got out of bed, walked a few steps, and called her sister to bring her the chamber. Suddenly the abdominal parietes burst with a slight cracking sound, and through the rupture the fœtus presented, enveloped in its membranes. Being alone, she endeavoured with her two hands to prevent the escape of the mass. A midwife called at the instant, removed the fœtus which had escaped by the rupture and was dead, and put the patient to bed. Dr. Schrœder arrived an hour afterwards. He found a large transverse rupture of the abdominal parietes, five inches long, a hand's breadth below the umbilicus. The membranes and a part of the omentum protruded on the right side, and on the left was the cord and the placenta still adherent to the internal surface of the uterus. Dr. Prael saw the patient soon afterwards. She was at this time in a satisfactory condition; she was, it is true, pale, and pulse small, but there was nothing in her words or actions which indicated any great danger. The hemorrhage had not been abundant; the wound was not painful, it merely smarted slightly. It gaped so much that, at first view, doubts might have been felt whether it was transverse or perpendicular. The right side of the wound was occupied by a violet tumour, the size of the head of a new-born child, formed by the membranes filled with coagulated blood, and a portion of omentum. The placenta in part visible, and a portion of the cord occupied the other part of the wound. None of the intestines had prolapsed.

As the umbilical cord was so slender as to give rise to fears that it would break by the least pulling, Dr. Prael introduced three fingers into the uterus through the abnormal opening. That organ was already contracted, so that the direction of the wound in it could not then be determined with certainty. Dr. Prael detached, not, however, without difficulty, the placenta which was attached to the posterior parietes of the uterus. The blood was removed, the lips of the wound in the uterus brought together, and the omentum replaced. Not being able to use sutures to the abdominal wound, its lips being swollen, unequal, and œdematous, he kept it closed with adhesive straps placed perpendicularly, and completed the dressings with soft compresses and a bandage.

The reaction which followed this severe lesion was moderate. The wound assumed, however, an unhealthy appearance, discharged copiously a bloody sanies, and its margins became gangrenous. Nevertheless, except the stools, all the functions were performed normally; even the lochia flowed by their natural route. Gradually the appearance of the wound became better, it discharged healthy pus, and under a tonic and invigorating treatment, the cicatrization went on, and by the 5th October, it was complete. Six weeks after this accident menstruation reappeared, and about the end of October, she menstruated a second time without pain, the discharge less abundant, however, than at the first time.

67. *Case of Gravid Uterus passing into the Sac of an old Inguinal Hernia.—Cæsarian Section.* By Theophilus Fischer, M. D.—On the 12th October, 1832, Magdalene Münger, forty-four years of age, from Wohlen, living in the parish of Kœnitz, was taken as an urgent case to the surgical department of the hospital (Insel) at Berne, under the superintendence of Dr. Isenschmid, (professor of surgery), in whose absence, at that time, the duties of the institution were conducted by the author of this paper.

Upon examining the patient, it was found that she had had seven children, six girls and one boy. Ten years previous to her marriage she had an inguinal hernia on the right side, which was neglected, she never having worn a truss. In every pregnancy the woman suffered much inconvenience from the hernial tumour, which frequently became very large.

She was now pregnant of her eighth child, and at the sixth month of her pregnancy. The hernia had been incarcerated for several days previous to coming into the hospital, but her sufferings had been subdued by cataplasms of linseed meal and cold applications, by which means the hernia was reduced. After the hernia was reduced, the most severe pains came on suddenly in the whole abdominal region, in the loins and lower extremities; and, during these pains, the impregnated uterus got out of its natural position and protruded through the inguinal ring, covered by the hernial sac. The gravid uterus was easily distinguished, and of an egg-like form, resting upon the thighs to the length of eight inches downwards, and six inches in circumference. The woman, lying upon her back, was free from pain. No menstrual discharge had taken place for six months. On examination per vaginam, the os uteri was found, as is generally the case in pregnancies of six months, only a little retracted, higher and more inclined to the right side. The functions of the bladder and rectum were natural. The abdomen was small, relaxed and wrinkled. By applying the stethoscope to the lower and anterior part of the tumour, and placing the ear on the orifice of the instrument, regular pulsations were discoverable. From this time the patient never abandoned her bed, always maintaining her position on the back; and in this position she was tranquil, and had no return of pain up to the full period of her pregnancy, although the dimensions of the uterus gradually increased to such a degree that, on the 19th January, 1833, it measured twenty-five inches and two lines in circumference, and in length twenty-two inches and ten lines, the circumference at the base being considerably smaller. On the above-mentioned day, at six o'clock in the evening, the woman felt herself unwell: she had pains in her loins and abdomen, and contractions in the uterus; the orifice of the uterus became dilated, and, between six and seven o'clock, the waters per vaginam escaped, upon which the pains increased prodigiously. In consultation, Dr. Leuch decided upon performing the Cæsarian section, which he performed about nine the same evening, in the presence of Professors Isenschmid, Hermann, Emmert, the medical men Nichans, Fischer, and some students.

The woman, placed on her back, Dr. Leuch standing on the right side of the patient, formed on the lower half of the tumour a fold of the integuments on the right side, making an incision longitudinally, seven inches in extent. By a second incision, he opened the hernial sac, and the fundus of the uterus; the placenta, which adhered at this part, was divided by the same incision, and bled profusely, after the opening into the uterus was enlarged. The membranes were also divided, out of which the remaining part of the waters ran. The operator then introduced his hand, and found a living, healthy, well-formed child, with its head at the fundus of the uterus, and with its feet towards the hernial ring. The funiculus umbilicalis was divided and tied, the placenta detached, and the child given to the care of a nurse. The wounded uterus bled very much, and retracted itself to at least three-fourths of its former extent. The wound of the integuments was now made clean, and brought together by ligatures. At the lower part an opening was left, to admit of the escape of blood. Upon the incision were placed some straps of adhesive plaster, and compresses of lint, and the whole secured by a spiral bandage lightly. The patient being now made clean, was left to rest. Her countenance was pale and shrunk; on a sudden she had hiccup, and severe pain in her back and loins; her pulse was weak, and she had given to her a draught of liq. anod. miner. Hoffm. tinct. cinnamon. et tinct. opii.

Before midnight the bandage was made looser on account of severe pain; and at two hours after, the bandage was removed entirely. A small artery bleeding showed itself in the hernial sac, and some coagulated blood was found in the cavity of the uterus and its vicinity. Towards the morning of the 20th of January, the patient was more quiet, but very weak, and ether was given to her. On that day a constant vomiting followed after every thing she took, without distension and sensibility of the abdomen; and with these symptoms the patient died at between three and four o'clock on the morning of the 21st. The *sectio cadaveris* was made thirty hours after death.

The circumference of the tumour, taken horizontally, measured seventeen inches; and longitudinally, twenty-one inches nine lines, and the base eighteen inches eight lines. In the cavity of the abdomen it was discovered that hemorrhage had taken place from the wounded uterus—the ligature applied to the incision of the hernial sac being found in its proper place. The inguinal ring was so much extended as to admit an open hand to pass through with ease. The hernial sac was above, and to the right, and the uterus below, and to the left part of the ring. The incision in the uterus was found to the right, and in front. The colon was found detached, but lying in the hernial sac, and measuring twelve inches in its outer circle. A small fold of this intestine was found adhering to the inguinal sac posteriorly. The pelvis was large and well formed.

The infant is still living, and healthy.—*Lond. and Edin. Month. Journ. Med. Sci.*, January, 1844.

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68. *Polypus of the Uterus adherent to the Placenta successfully removed.* By M. Aubinais.—A woman, ætat. 35, was afflicted, after two natural deliveries, with frequent floodings, accompanied with pains in the loins. This state continued for five years, when she became pregnant a third time. When M. Aubinais was called to her, he found that the fœtus was expelled, the cord broken, and the placenta retained in the uterus. The insertion of the cord into the centre of the placenta was felt by the finger passed along it; but at twenty-seven millimeters to the left of its point of insertion, the presence of a tumour of the size of a large hen's egg was discovered, which made the placenta swell out into the shape of the bottom of a lamp. The placenta was detached from left to right, and the polypus was found to adhere to it, which explained the rupture of the cord. When the placenta was pulled, the polypus was drawn with it, as well as the uterus. M. Aubinais firmly supported the uterus with one hand on the hypogastrium, then seizing the polypus, which appeared to him to have an elongated pedicle, he twisted it, and brought it away without much difficulty. The entire placenta came away with the polypus, and without much hemorrhage. The adhesions of the polypus to the placenta were examined, and found to be strong, particularly over a space of the size of a franc piece. Several very small vessels had kept up the circulation between the polypus and the placenta, and on pressing these bodies at the same time, these vessels were seen to fill with blood. The patient was soon cured, and she has since been confined, making her fourth time, without any untoward symptom.—*Lond. Med. Gaz.*, Sept. 20th, 1844, from *Gaz. Méd. de Paris*, Sept. 7, 1844.

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69. *Juice of the Urtica Urens in Uterine Hemorrhage.*—M. Mérat read a report to the French Academy of Medicine, (23d of July,) on a communication of M. Ginestet, relative to the hemostatic properties of the urtica urens. It appears from the cases related in the memoir, a brief analysis of which is given by the reporter, that the juice administered in several cases of uterine hemorrhage, in

the dose of from two to four ounces, produced a considerable and rapid diminution of the hemorrhage, and in some cases a complete cessation of it after a single dose. The reporter is of opinion that this remedy formerly used, but which has fallen into disuse, is worthy of further trials.—*Gaz. Méd. de Paris*, 27th July, 1844.

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70. *Prolapsed Uterus—Pregnancy.*—Dr. P. Darbey, of Drogheda, has communicated to the *Dublin Medical Press*, (Nov. 6, 1844,) the case of a woman forty-two years of age, who, having had *prolapsus uteri* for some years, and being now for the seventh time pregnant, was suddenly seized on the 23d August, with labour pains. On examination, Dr. D. found, on his arrival, the uterus lying between the patient's thighs, presenting a livid appearance, and the os uteri having a dry feel, and no symptoms of dilatation. The labour pains were strong, violent cramps in the lower extremities. Dr. D. immediately took thirty ounces of blood from the arm, and administered the following draught: ℞ aq. menth. sativa, ℥iss.; tinct. opii. acetat. gtt. 4; syrup cort. aurant. ʒij.—M.; which procured some rest, and appeared to have checked the cramps and other bad symptoms. After a comfortable repose of two hours, labour pains returned, the os uteri gradually and steadily dilated, with a sufficiency of mucous secretion, and a healthy but small-sized child was born. The placenta followed after a short time, and the uterus being replaced and suitably secured, nothing untoward followed.

A similar case is noticed in our number for July last, p. 257; but in that incisions were made into the os uteri to effect delivery.]

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71. *Dropsy of the Amnion.*—Dr. Robert Lee relates in his "*Clinical Midwifery*" seven cases of dropsy of the amnion, in five of which there was some mal-formed or diseased condition of the fœtus or its involucra, which rendered it incapable of supporting life subsequent to birth, and the same circumstance has been observed in most of the cases which have been recorded by authors. In two only of the cases was the formation of an excessive quantity of liquor amnii accompanied with inflammatory and dropsical symptoms in the mother; and in none did the amnion, where an opportunity occurred for making an examination, exhibit those morbid appearances produced by inflammation, which M. Mercier has described, and which led him to infer that inflammation of the amnion is the essential cause of the disease. When unconnected with a dropsical diathesis in the mother, Dr. L. was disposed to consider it merely as one of the numerous diseases of the fœtus and its appendages which sometimes occur independently of any constitutional disorder in the parents, and with the causes of which we are wholly unacquainted. The diagnosis of dropsy of the amnion is, Dr. L. observes, most difficult in the simple form of the disease, where the effusion has taken place to a great extent, and when complicated with ascites. In both these cases, fluctuation more or less distinct can be perceived on percussion of the abdomen, but we can obtain from this sign no positive information, to enable us to determine whether the fluid be contained in the cavity of the peritoneum, amnion, or in both these membranes. In the simple form of dropsy of the amnion, where the quantity of fluid is not excessively great, the fluctuation is obscure, deep-seated, or wholly imperceptible. The presence or absence of fluctuation is, therefore, no certain test of the existence of the disease, and the only mode of arriving at a correct diagnosis, both in its simple and complicated forms, is by instituting an examination per vaginam. By this proceeding we shall not only be able to ascertain the changes in the uterus consequent on impregnation, but the accumulation of a preternatural quantity of fluid in the membranes of the ovum. This latter circumstance is known by the unnatural enlargement of the body of the uterus, by the state of its cervix, which is prematurely obliterated, by the ballottement of the fœtus, which is remarkably distinct, and by the sense of fluctuation in the vagina on percussion of the abdomen. In ascites complicated with pregnancy, Scarpa has observed in his memoir on this subject, published

in 1817, that the symptoms are entirely different from those of hydrops amniosis. The regular form of the fundus and body of the pregnant uterus, he states, is not evident to the touch in these cases, from the enormous distension and prominence of the hypochondria, arising from the great quantity of fluid interposed between the fundus and posterior part of the uterus and abdominal viscera.—The urine is scanty and lateritious, and the thirst is constant. The abdomen, upon percussion, presents a fluctuation obscure in the hypogastric region and in the flanks, but sufficiently sensible and distinct in the hypochondria, and strong and vibratory in the left hypochondrium, between the edge of the rectus muscle and the margin of the false ribs. These symptoms, with the previous history of the patient, may afford us, in doubtful cases, some assistance in the diagnosis, but our principal dependence must be placed on the information acquired by a careful examination of the state of the cervix and body of the uterus.

Having arrived at a correct diagnosis, the treatment of dropsy of the amnion becomes simple. Our object ought to be to relieve the urgency of the symptoms occasioned by the over-distension of the abdominal cavity, and the only safe mode of giving this relief is, by puncturing the membranes, and evacuating the superabundant liquor amnii. In four of the cases related, this was had recourse to with success, and in one the life of the child was preserved. In another, the mother's life would have been saved had this been done at an earlier period. In all the other cases, the spontaneous rupture of the membranes was followed by alleviation of the symptoms, and the birth of a child rendered by disease incapable of supporting life; a further proof that the evacuation of the liquor amnii is attended with beneficial consequences. The artificial rupture of the membranes, if the operation be carefully performed, is not more dangerous than the spontaneous rupture, and if the ease and safety of the mother can be insured, we ought not to be induced to delay its performance by apprehension for the life of the child, since from its diseased state, in the greater number of instances, it will be still-born. The only difficulty that can arise respecting the treatment, is in cases of dropsy of the amnion complicated with ascites. Even here I would recommend the evacuation of the liquor amnii, as the best remedial measure that can be had recourse to, since it relieves the leading symptoms produced by the pressure of the excess of fluid in the peritoneum and amnion on the neighbouring organs, which are the only symptoms necessary to be counteracted. After delivery, the effusion into the peritoneal cavity, if it depend on utero-gestation, will gradually disappear.

72. *On the Causes and Treatment of Uterine Hemorrhage, in the latter months of Pregnancy.*—By Robert Lee, M. D.—(*Clinical Midwifery.*)—The placenta may adhere to any part of the inner surface of the uterus, and flooding never takes place during pregnancy, unless the placenta has been separated from the uterus. When the connection between them is destroyed, blood flows from the open arteries in the lining membrane of the uterus, and from the great semilunar-shaped openings in the veins, until the uterus contracts, and coagula of the fibrin are formed. The contractions of the uterus, and the formation of the clots within its cavity, and in the orifices of the arteries and veins of the uterus, after the separation of the placenta, are the principal means employed by nature for arresting the flow of blood. The semilunar or valvular-like edges of the veins at their termination in the inner surface of the uterus, are well adapted to ensure the effect of arresting the current of blood through these passages by the contraction of the fibres with which they are everywhere surrounded. All the different efficient means which have been recommended for checking the discharge in uterine hemorrhage, operate either by exciting contraction of the uterus, or by promoting the coagulation of the blood itself within the vessels. The placenta is most frequently attached to the upper and posterior part of the uterus, but in some cases it adheres to the circumference of the internal orifice,

and from this peculiar situation of the placenta, arises one of the most dangerous varieties of flooding in the latter months of gestation.

In 1609, Guillemeau stated that the placenta sometimes presents or comes before the child, that this gives rise to a dangerous hemorrhage which nature is unable to suppress, and that the most safe and expedient means of arresting it, is to deliver immediately by passing up the hand into the uterus and turning the child. He has made no observation from which it can be inferred that he believed the placenta to have been originally adherent to the upper part of the uterus, and to have descended thence to the cervix. This was an erroneous hypothetical opinion adopted by Daventer at a much later period. In those cases of uterine hemorrhage in which the placenta did not present, but had been detached from the fundus uteri, Guillemeau had likewise recourse to artificial delivery, and for the knowledge of this practice he states that he was indebted to Ambrose Paré. The symptoms and treatment of cases of placental presentation were accurately described by Mauriceau, and in all cases of hemorrhage from this cause he recommends immediate delivery. He has related seventeen cases of uterine hemorrhage in the latter months of pregnancy from presentation of the placenta, and in sixteen of these delivery was accomplished artificially by passing the hand through the opening formed by the separation of the placenta from the uterus, rupturing the membranes, and turning the child. Two women died after this operation, and one who would not consent to have it performed, died undelivered. Mauriceau has likewise recorded the histories of thirty-seven cases of uterine hemorrhage, in which the placenta did not present, but had adhered to the upper part of the uterus, and been afterwards detached. Twenty-one of these cases occurred before 1682, and in most of them he delivered artificially by turning the child, as he had done in the sixteen cases of placental presentation, and as Paré and Guillemeau were accustomed to do in all cases of flooding in the latter months of pregnancy. On the 9th June, 1682, he says, "I delivered a young woman in the eighth month of pregnancy who had uterine hemorrhage caused by a violent fall upon the knees four days before. During her whole labour she had only slight pains in the abdomen which produced no effect. As the hemorrhage was moderate, and the uterus was gradually dilating, I committed the labour to nature, contenting myself with rupturing the membranes of the child." There is no account given of the circumstances which induced him to make this important change in the treatment of cases in which the placenta did not present, and to adopt that improved method of treatment which was at a later period so strongly recommended by Puzos, and considered by him as his own discovery. In eight cases Mauriceau ruptured the membranes and left the labour to nature with the happiest results. He recommends the same practice when hemorrhage occurs in the first stage of labour.

Portal's Treatise, 1685, contains an account of eight cases of uterine hemorrhage, in which he found the placenta not merely at the mouth of the womb, but adhering to the whole neck of the uterus. In several of these cases he felt the placenta adhering all round to the internal orifice of the uterus. In the account of his sixty-ninth case he says, "Je sentis l'arriere faix, qui se presentoit, et qui estoit fort adhèrant, et attaché à l'orifice de la matrice de toutes parts." In the histories of all the other cases, the same circumstance is expressly stated. In those cases the treatment employed by Portal did not differ from that which had been employed by Paré, Guillemeau, and Mauriceau, the propriety of artificial delivery by turning being then as completely established as at the present time, and the important fact demonstrated that the hemorrhage is produced by the placenta adhering to the neck of the uterus. Petit, Giffard, Ræderer, Smellie, Levret, and W. Hunter, were all well acquainted with the fact, and deduced from it the correct practical inferences deduced from it. Dr. Rigby states that "Giffard has more than twenty cases where the placenta was found at the os uteri, but he plainly supposes that it had not been originally fixed there, for he says, 'It is customary in floodings to find the placenta sunk down to the mouth of the womb.'" "I beg leave," says Giffard, in the history of his last case of uterine hæmorrhage, (1731,) "before I proceed to give any further account of the delivery, to give my opinion in a point of midwifery in which I differ from most authors that have wrote on the subject. It is generally believed that the ovum, after its impregnation and separation from the ovarium, and its passage through the tuba Fallopiana always adheres and is fixed after some time to the fundus uteri; in this case the placenta adhered, and was fixed close to and round about the cervix uteri, as I have found it in many other cases, so that upon a dilatation of the os uteri a separation has always followed, and hence a flooding naturally ensues." "When I had passed my whole hand into the uterus, I found the placenta adhering all round the os internum, so that I was forced to separate it on one side to reach the membranes, which I tore." "The edge or middle of the placenta," says Smellie, "sometimes adheres over the inside of the os internum, which frequently begins to open several weeks before the full time, and if this be the case, a flooding begins at the same time, and seldom ceases entirely until the woman is delivered. The discharge may, indeed, be terminated by coagulum that stop up the passage; but when these are removed, it returns with its former violence, and demands the same treatment that is recommended above." "If in time of flooding," he adds, "she is seized with labour pains, or if by every now and then stretching with your fingers the os internum, you bring on labour, by which either the membranes or head of the child is pushed down, and opens the os internum, the membranes ought to be broke, so that some of the waters may be discharged, and the uterus may contract and squeeze down the fœtus. This may be done sooner in those women who have had children formerly, than in such as have not been in labour before. If, notwithstanding this expedient, the flooding still continues, and the child is not like to be soon delivered, it must be turned immediately; or if the head is in the pelvis, delivered with the forceps; but if neither of these two methods will succeed, on account of the narrowness of the pelvis or the bigness of the head, this last must be opened and delivered with the crotchet. In all these cases let the parts be dilated slowly, and by intervals, in order to prevent laceration." These are the most clear, concise, and accurate rules which have been laid down by any author, for the treatment of hemorrhage in the latter months of pregnancy, and in the first stage of labour.

Dr. Lee relates thirty-five cases of placental presentation, in seven of which death took place "soon after delivery from loss of blood, and in six, at periods more or less remote from the time of delivery by uterine phlebitis, or inflammation of the deep structures of the uterus. In one with distorted pelvis the uterus was lacerated. In eleven there had been more or less rigidity of the os uteri, with dangerous hemorrhage, and turning was performed in several of them, where the whole hand could not be introduced into the uterus. The tampon or plug was not beneficial in any of them, and the ergot did positive injury. Rest in the recumbent position, and the application of cold, were the only means found really useful in checking the hemorrhage till delivery could be effected. Dr. Joseph Clarke met with four cases of placental presentation in the Dublin Lying-in Hospital, one of which proved fatal. Dr. Collins met with eleven in 16,654 labours. Two of the women, where the children were turned, died. Dr. Ramsbotham has related nineteen cases of placental presentation, eight of which proved fatal. In five the placenta was only partially adhered to the cervix, and in three the expulsion of the placenta took place before the child. Out of one hundred and seventy-four cases of placental presentation recorded by different authors, Dr. Churchill states, that forty-eight proved fatal, or nearly one in three, and that in eighty-five cases of uterine hemorrhage where the placenta was at the fundus uteri, twenty-four proved fatal, or nearly one in three."

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73. *Retained Placenta.*—Dr. Robert Lee has recorded in his *Clinical Midwifery* the histories of seven fatal cases of retained placenta, and nineteen in which more or less difficulty and danger were produced from portions of the placenta

or the entire mass being left within the uterus beyond the usual period. The best method he says of preventing the occurrence of similar accidents, is to apply the binder immediately after the birth of the child, to make pressure with the hand over the fundus uteri at short intervals, and slight traction upon the cord downward and backward in the direction of the hollow of the sacrum. By these means the upper part of the uterus usually goes on contracting till the placenta is detached, and pressed down through the os uteri into the vagina. In all cases, whatever the cause of the retention may be, if the placenta at the end of an hour is not detached from the uterus and expelled, it should be withdrawn artificially by passing the hand along the cord to its insertion, expanding the fingers, and grasping the whole mass, or as much as can be seized and brought away. The difficulty of removing portions of placenta, adhering with more than the natural firmness to the uterus, is only increased by delay.

74. *Diagnosis of Inverted Uterus and Polypus.* By M. Lisfranc.—In inversion of the uterus, the bladder and a portion of the intestines are lodged in the concavity formed by the depression of its fundus; if, then, a curved catheter is passed into the bladder with its concavity downwards, and its beak is directed to the most depending part of this organ, the extremity of the instrument will be readily felt by the finger in the vagina, if the case is one of inversion, unless, indeed, the intestines have become adherent to the womb in such a way as to prevent the catheter penetrating into the depression formed by the inverted organ—a circumstance of very rare occurrence. M. Lisfranc thinks, however, that the best way of discriminating between polypus and inversion of the uterus, is to seize and depress the tumour with two fingers passed into the vagina, and then introduce the index-finger of the other hand into the rectum; no tumour can be felt through the gut above the one which is grasped in the vagina, if the case is one of inverted uterus; but if, on the contrary, we feel through the rectum a second tumour, similar in shape to the uterus, above the vaginal tumour, then this latter tumour is a polypus. In one instance, indeed, M. Lisfranc was misled by this mode of examination; he diagnosticated inversion of the uterus, but the patient having died, a small fibrous tumour was discovered implanted on the uterus, which was flattened and reduced to the tenth part of its natural size.—*B. & F. Med. Rev.*, July, 1844.

75. *Statistics of Obstetric Practice.* By Prof. Murphy.—1. *Menstruation.*—Dr. Murphy has ascertained *the age* at which this function commenced in 559 individuals. This inquiry has been already pursued in 450 instances by Mr. Robertson, and in 1160 by Dr. Lee. A total of 2169 cases shows,

"That there is a great variety in the age at which the catamenia first appears; 9 years [14 cases], and 23 years [1], seem to be the extremes, the most frequent period of its occurrence is between the ages of 12 and 18; and of those recorded, it commenced, in the greatest number of instances [417], at 15."

The interval of the catamenial function was recorded in 591 cases by the author, and by Mr. Robertson in 100. In 557 of those cases the interval was found to be 28 days; in 105 it was 21 days; and in the remaining 29 it was irregular, varying from 14 days to 42. It should be observed, that Dr. Murphy's inquiries were addressed to pregnant females, in whom probably the menstrual period would be found to have been more regular than in the same number of females taken indiscriminately.

2. *Pregnancy.*—Its duration was made by the author the principal subject of inquiry; some curious and useful facts are the result. The number of cases in which accurate information was procured was 186; in each the catamenial period was noticed; and

"To prevent error arising from uncertainty as to the exact date of conception, this interval was deducted from the whole number of days of pregnancy; thus, 328—28 would make the duration of pregnancy 300 days."

The results thus ascertained establish 301 *days as the average limit of gestation.* To this there are, however, three remarkable exceptions. In the first, a fully developed child was born after an interval of 261 days. The evidence in this instance, (an unmarried female, stating herself to be pregnant after one connection,) is not to be wholly relied on. In two other cases the duration of pregnancy extended to 342 and 352 days, or, deducting the menstrual period, to 324 and 314 days respectively. The histories of those cases given in detail are such as to lead to the conclusion that pregnancy may be prolonged to this extended period—a fact of great importance to the medical jurist. The relation of pregnancy to previous menstruation is referred to, and some exceptional cases are recorded. Thus, in one instance, pregnancy occurred without previous menstruation; in another, menstruation ceased on marriage, and in a few cases periodic discharges resembling the catamenia were present during pregnancy.

A remarkable coincidence between the periods of human gestation and those of the cow, as deduced from the tables drawn up by Lord Spencer, some valuable practical points connected with the use of instruments, the treatment of hemorrhage, and the origin of puerperal fever, remain to be noticed.—*Lancet*, Nov. 30, 1844, from *Dublin Journal.*

MEDICAL JURISPRUDENCE AND TOXICOLOGY.

76. *Arsenic in the Earth of Cemeteries.*—Ollivier D'Angers communicated the following to the Royal Academy of Medicine in July, 1844.

He was directed, with Barse and Devergie, to analyze the viscera of two persons supposed to be poisoned. The case occurred at the Court of Assizes of Epinal, (Vosges.) A husband and wife had died, as was supposed, through the criminal acts of their respective partners. A chemical examination, by the experts of Epinal, showed no arsenic in the organs of the female, but it was found in the stomach and intestines of the male. Doubts were thrown on the correctness of the analysis, and the case was carried to another term of the court.

When the body of the female was reinterred, after the first exhumation, a heavy rain was falling, and it slipped from the hands of the grave-digger. It could not be replaced in the coffin, but was covered with the earth of the cemetery. The body of the male was, however, put into its coffin.

The bodies of both were dug up a second time, and the viscera sent to Paris, to be examined by Ollivier and his associates. In those of the female, although thoroughly exposed to the solvent power of water, percolating through the earth of the graveyard, no arsenic could now be detected, but it was readily attained on analyzing the liver of the male. *The earth of the graveyard proved to be arsenical.* Our author deems this a strong confirmation of the opinion advanced by Orfila, viz., that it exists in these situations in combinations insoluble in water, thence that a body, buried in arsenical ground, cannot become impregnated by that substance.

Still, if decay be so far advanced, that the body has become intimately mixed with the earth, it will be prudent in the medical examiner not to sanction too readily the charge of poisoning.

As to the cause of the presence of arsenic in these situations, it may be that the earth is naturally arsenical, or it may have been mixed with it in the sowing of grain, and which is a common practice in France. The combination found was probably an arsenite of lime.—*Bulletin de l'Academie Royale de Médecine.*

T. R. B.

77. *Aconitum Napellus, (Monkshood.)*—Case by A. Ramsay.

At about 11 A. M., a boy aged fourteen, on passing a garden, looked over the wall, and asked a young man in the garden if he would give him some parsley; to which it was answered that he would get some new parsley, as being much better than the old kind. The young man accordingly gave the boy a handful of green leaves, of which he ate some. In about two hours after he complained of a burning sensation in the mouth, throat and stomach, and was very sick For this his mother made him take a glass of whisky. Some time after this he took a fit and fell on the ground; at 6 P.M., on his mother returning from her work, she found him lying across the bed, with his hands in his pockets, dead and stiffening. The blood-vessels within the head were found enormously distended with dark-coloured fluid blood, upwards of a pound of which escaped from the skull and spinal canal. The stomach was empty, with a deep inflammatory blush over its whole internal surface, and here and there patches of a darker colour. Farther dissection was not allowed.—*Medico-Chirurgical Review*, July, 1844, from *Northern Journal of Medicine.* T. R. B.

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78. *Poisoning by Euphorbia Lathyris.*—By M. Jacob. An individual was suddenly seized with violent vomiting and bloody stools. He had no medical attendance during the first two days, and the physician called in had no suspicion of poisoning. The patient died at the end of three days. The stomach and intestines presented no decisive appearances, and Drs. Jacob and Lemoine, who had been appointed by the authorities to make the necessary inquiry, proceeded to an analysis of the solid parts. A portion of the liver, a kidney, and half of the stomach, and large intestines were submitted to a prolonged decoction in a close vessel. The liquor arising, when freed from fat by cooling and decantation, was of a deep yellow, opalescent, and powerfully reddened litmus. It was concentrated at a gentle heat, divided into several portions, and tested for the principal mineral poisons. Sulphuretted hydrogen gave slowly a very scanty yellow precipitate—not sensibly soluble in water; lime water a white precipitate; nitrate of silver a very abundant yellow one, partially soluble in ammonia; and ammoniacal sulphate of copper a green coloration of the liquor in a quarter of an hour, and subsequently a precipitate of the same colour. As all these precipitates had the colour of those produced by arsenic with the same reagents, they next proceeded to determine their nature, and the result of numerous experiments showed the presence of sulphur, and a small quantity of animal matter, *without the slightest trace of arsenic.* It further demonstrated (says Dr. Jacob,) that the yellow precipitate furnished by nitrate of silver was produced by a mixture of chloride of silver and phosphate of the same base, whence its incomplete solubility in ammonia; also, that the green coloration and precipitate by the copper must be attributed, the former to the mixture of the reagent with the yellow liquor, the latter to a small quantity of animal matter coloured by the liquid.

The physicians next tested the liquid for the principal vegetable poisons, viz., strychnine, brucine, morphine, and prussic acid, but could discover no indications of any of these.

The prosecution was thus necessarily abandoned, but the scandalous conduct of the accused, the widow, again excited public attention, and caused renewed investigations. And from these it appears almost certain that the deceased was poisoned by the *Euphorbia Lathyris.* She bruised the seed, and administered it in wine to her husband, and he, although drunk, refused for a time to drink it, saying that it burnt his body.—*Chemist*, from *Journal de Chimie Médicale.*

T. R. B.

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79. *Rupture of the Omentum.*—A hussar felt, as he said, "a crack in the breast," as his horse came to the ground, after taking a leap. Next day he complained of pain under the short ribs of the left side—he had cough, with bloody expectoration, and swelling, as well as pain of the left hypochondrium. The bowels were obstinately confined, the urine scanty and high-coloured; the pulse very small and rapid. Things went on from bad to worse, and the patient died early next morning. On examining the body, a rent in the omentum, to the left side, and one inch and a half long, together with five ounces of bloody effusion

within the cavity of the abdomen, were discovered. The lungs appeared quite healthy.—*Dr. Derner* in *Casper's Wochenschrift*, *London Medical Gazette*.

T. R. B.

80. *Lisfranc's opinion on some Disputed Points in Obstetrical Medical Jurisprudence.*

Moles.—M. Lisfranc has no doubt, if the embryo dies, it may become extremely atrophied or even disappear entirely, while the placenta, which still retains its connection with the uterus, may increase and become altered in its structure. He believes that moles are sometimes thus formed as he has dissected several wombs which contained placenta in which not a vestige of an embryo could be discovered. But he is also of opinion that moles may be formed independently of conception or sexual connection, and he then attributes their origin to coagula of blood which have become organized. Thus he has seen females long affected with menorrhagia, during which they abstained from sexual intercourse, subsequently void moles, and, on dissecting a young girl who died from the consequences of imperforate vagina, he discovered a mole in the uterus.

M. Lisfranc discusses the circumstances that have been supposed to distinguish moles from pregnancy, and comes to the conclusion that the diagnosis of the former affection is difficult, or, more properly speaking, impossible; the utmost that can be done is to calculate probabilities after having carefully weighed all the symptoms.

When the mole is expelled, the lochia flow and the breasts swell, and are supplied with milk usually just as after labour.

Physometra, or Tympanitis of the Womb, arising either from the entrance of atmospheric air, or dilatation of the uterus by elastic fluids, (sulphuretted hydrogen, it is supposed,) generated during the decomposition of organic matter, such as a fœtus or placenta, or finally, from an excretion of gas from the internal surface of the uterus. From whatever cause it may originate, M. Lisfranc is a believer in the occasional occurrence of this disease.

Hydrometra, or Dropsy of Uterus.—Naegele and Stolz deny the possibility of the occurrence of this disease, except in connection with pregnancy, because the uterus is a mucous and not a serous membrane—because its dense structure would present an insurmountable obstacle to its dilatation by the fluid—because the fluid would escape, and because, as they allege, no authentic case of the disease has yet been recorded.

M. Lisfranc details two cases of hydrometra, in both of which the absence of pregnancy was satisfactorily ascertained.

Hydatids of the Uterus and Vagina.—The great majority of writers maintain that hydatids of the uterus must be the result of conception. M. Lisfranc admits that the clustered hydatids, somewhat resembling a bunch of grapes, has always this origin, but that true hydatids may exist in the virgin uterus, and refers to a case recorded by Percy as indisputably proving this fact.—*British & Foreign Med. Review*, July, 1844.

T. R. B.

81. *Hereditary Insanity, how far, in cases of alleged unsoundness of mind, it may be pleaded.*—Sir Thomas Apreece died on the 30th of December, 1842. Certain papers were propounded as containing his last will and testament. Probate of these papers was opposed by Mrs. Peacocke, the sister and sole next of kin, on the ground that the deceased was not, at the time of executing these papers, of sound mind. In the allegation it was pleaded, that the said Sir Thomas Apreece left him surviving,—Thomas Apreece and William Apreece, natural sons of the late Charles Apreece, (who was the paternal uncle of the testator,) both of whom were under confinement as lunatics, as was also the late John Apreece, another paternal uncle of the testator, and who died under such confinement.

The admission of this article was opposed by counsel, on the ground that hereditary or constitutional insanity cannot be adduced as evidence of individual or particular insanity; that its admission would lead to the extension of proof through a great number of collateral relations, and thus many causes would be tried instead of one.

It was defended on the general ground that an inquiry is allowable, as to whether the family of the deceased was subject to mental insanity.

Sir Herbert Jenner Fust, the judge before whom the case was argued, observed, that "if the present plea be admitted, there must be an opportunity afforded to counter-plead; evidence may be gone into, on the one hand, to show that there is insanity on the father's side and none on the mother's; on the other, that the insanity is inherited solely from the mother and the case may branch out into various collateral matters and issues. In *Tyrell* v. *Jenner*, the party whose insanity was pleaded, was a sister of the whole blood, immediately and inseparably connected with the testator; here, to put the case at the highest, the parties are only collateral kinsmen. Where is the court to stop? What is the degree of relationship to which this hereditary malady is to be limited in pleading, if the court once extends the principle to collateral relations? If in this case, it had simply been pleaded that a brother of the deceased had been insane, so far the case of Tyrell *v.* Jenner and the present case would have been identical, except, indeed, that the former case extended the principle to the son of the party. Here, it is sought to enlarge the principle to the natural children of the uncle of the deceased. I think, in this respect, the two cases materially differ, and I will not carry the principle established by that one case farther than the case itself warrants."

This article must be struck out of the allegation, *Curteis' Ecclesiastical Reports*, vol. 3. *Frere* v. *Peacocke.*

The above is doubtless good law, but—what is sauce for the goose should be sauce for the gander; and if so, the principle is justly applicable in *criminal* as well as in *civil* cases. T. R. B.

82. *Relative Weight and Size of the Male and Female at Birth.* By Dr. Simpson, Professor of Midwifery, Edinburgh.—Dr. Clarke (Philosophical Transactions, 1786) gave the absolute and relative weight of 60 of each sex, taken at the Dublin Hospital:*

60 Males weighed 442 lbs.; average 7 lbs. 5 oz. 2 dr.
60 Females weighed 404¼ lbs.; average 6 lbs. 11 oz. 2 dr.
Average difference, 9 ounces.

In the Edinburgh Lying-in Hospital, 50 male and 50 female children, born during the latter months of 1842 and the ealier part of 1843, were weighed by my friend and assistant, Dr. Johnstone:

50 Males weighed 383 lbs. 11 oz. 4 dr.; average 7 lbs. 9 oz. 1 dr.
50 Females weighed 342 lbs. 12 oz. 4 dr.; average 6 lbs. 12 oz.
Average difference, about 10 ounces.

Lengths of the above—

50 Males, total length 1020½ inches; average 20 inches 5 lines.
50 Females, total length 990½ inches; average 19 inches 10 lines.
Average difference, 7 lines, or upwards of half an inch.

—*Edin. Med. and Surg. Journ.*, Oct., 1844. T. R. B.

83. *Copper Tanks at St. Helena.*—Some letters lately appeared in the *Times*, stating that the water supplied to the India ships touching at St. Helena, contracted poisonous qualities, by being kept for a long time in tanks of copper. Some of the passengers and crew of the "Moffatt," from Bombay, having been seized with severe symptoms and of a suspicious character, the symptoms were attributed to the water being poisoned as above. This induced Messrs.

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* The Troy or Apothecaries' weight was there used.

Mason and Dawson, the physicians professionally attending one of the parties, to institute an inquiry into the matter; for which purpose, Dr. Venables was requested to undertake and assist in the investigation. The report is so far satisfactory, inasmuch as it negatives the presence of copper in any form, the analysis showing that the water did not afford even a trace. A specimen, taken from an *iron tank*, in which it was kept on board the vessel, held a large proportion of *peroxide* or *rust* of iron in mechanical diffusion. The peroxide, it is observed, was evidently derived from the rusting of the tank, and diffused through the water, when agitated or disturbed; otherwise, it was found tolerably pure and wholesome, free from any bad taste or smell, slightly acidulated with carbonic acid, and probably holding a trace of iron in solution.

Some very useful observations upon the danger of using water kept in copper vessels follow. It is stated, that copper is not readily attacked by pure water, but, under the joint influence of air and moisture, it is corroded. By agitation, this crust becomes detached and is diffused through the water. A fresh portion undergoes the same process, and, by a succession of corrosions, the water has become strongly impregnated with a poisonous form of copper, which, by the agitation of the water in the tanks, communicated by the motions of the ship, will be mechanically diffused, and persons drinking it almost to a certainty be poisoned. During cooking, too, the insoluble oxide may be rendered soluble, and thus converted into a still more active and speedy poison. Hence the propriety of doing away with copper tanks, if in use, and their replacement by others of a less deleterious nature, are strongly urged.—*London Atlas*, Oct. 26, 1844. T. R. B.

84. *Trial for Murder.*—William Crouch was a groom, 28 years of age. No details of his life or character are known prior to 1838. In December of that year, he was thrown against a wall and received a concussion of the brain. He was taken into the Devon and Exeter Hospital in a state of insensibility and according to the evidence of Mr. Tuffnell, under whose care he was for about a month, remained so for some time. He was treated for this disease and repeatedly bled. Mr. Tuffnell states, that on his recovery he advised his master not to take him back again, as he considered that from the injury he had received, the slightest drink might so affect his brain, as to render him incapable of taking care of a pair of horses.

Several witnesses deposed as to his condition after the above occurrence. He was frequently dull and absent, having formerly been of a cheerful turn of mind. He avoided society—and was known to sit for hours without speaking. In August, 1839, he became a servant to Lord Falmouth, and was discharged in January, 1840. A witness states, that he never heard him converse with a single servant during that period. He was asleep half his time, and was called the half-cracked man. In January, 1844, the prisoner came as waiter and post-boy at the Crown and Thistle tavern, in London. The landlord deposes, that he was incapable of performing these duties, and that he could never make him understand any thing. Crouch was always drowsy and heavy, and at last it was necessary to discharge him. He was willing to do his work, but was unable. On the day of the death of his wife, he was at the tavern and took something to drink, (a pint of porter.) He seemed somewhat wild when he came in; he became a little calmer, and then again excited. He left about half-past three o'clock.

Such are all the facts known concerning his previous life—no insane delusions, but dull, stupid, heavy.

The prisoner and his wife had come to their last residence in September, 1843. They had been separated from each other for about a fortnight, but she used to come and see him. They had one child, about nine months old, of which the prisoner appeared very fond.

On the afternoon (March 30, 1844) when he committed the murder, his landlady states that he was seen by her for a few minutes, when he left and returned in about an hour, when he had the appearance of a drunken man.

She told him that he had been drinking, which he denied. He sat down on a chair and said, "it must be done." She asked what must be done. He repeated the words three or four times and then fell asleep. At the end of half an hour she awoke him, and told him that his clean clothes had been brought home. He replied, that he should never want them. After some other observations, as to the neglect of his wife, he again left. At about twenty minutes before seven, he returned to his room, asked a person on the stairs whether his wife was there, and almost immediately thereafter she heard a little girl, who was in the room, screech. On entering, the deceased was seen lying in a reclining position by the side of the wainscoting, with her throat cut and dying. He was standing against the chest of drawers and wiping a razor. On expostulating with him, he said, "I have done it and I could not help it." To the constable who arrested him, he said, "it serves her right, she should not have left me."

He was thus evidently jealous—and appears also to have been irritated at her not mending his things. He had threatened, some time previous to the murder, to beat her or cut her throat.

He made a feeble attempt to cut his own throat immediately after the murder.

The day after the murder, he was crying very much and wished he was dead. He asked also to see his child.

An attempt was made to release the prisoner from his sentence, on the ground of being a monomaniac, but without success.—*Lancet*, June 8, 1844.

T. R. B.

85. *Case of Suicide.*—On Saturday, a chaise-boy, at Covincester, in the employ of Mr. Stevens, of the Ram Hotel, went into a stable, belonging to his master, and cut his throat with a razor. He cut the windpipe quite through, and *walked to his home, at least three hundred yards.* One of the neighbours met him in the yard, and asked what was the matter with him. He said he had cut his throat with a razor, and she then took and seated him in a chair, and, at his request, fetched him some water, which he drank, some of it running out of the wound. He died within five minutes after the time that he had first entered her house.—*London Illustrated News*, August 24, 1844. T. R. B.

86. *Recent English Law Cases. The Queen* v. *Sophia Wilshaw.*—The prisoner was indicted for stealing money, the property of Joseph Wood, her master. A surgeon deposed as follows; "I am a surgeon; I know Mr. Joseph Wood; he is 85; he is quite infirm and bedridden; he can sit on the side of his bed when he is lifted out; he is not able to bear a journey to the assizes, and I think it is not likely that he ever will be so." The counsel for the prosecution proposed on this, to give in evidence the deposition of the prosecutor, taken before the committing magistrate, in the presence of the prisoner; and this was allowed by the court. The prisoner was acquitted on the merits.—1 *Carrington and Marshman's Nisi Prius Reports*, 145.

The Queen v. *Marshall.*—Indictment for night poaching. One of the witnesses had made a deposition in the presence of the defendant, but was now ill. Dr. Knight was called. He said, "I am a physician; William Rickards has been under my care; he has been suffering from delirium and depression of spirits, in consequence of a blow on the head; his intellects are affected by the injury. I think he will recover, but I cannot say how long it may be before he will be well.

Sergeant Ludlow, who tried the cause, (having conferred with Justice Coltman,) said: "Mr. Justice Coltman is of opinion, that if the witness is actually insane, his deposition is not receivable in evidence, although the insanity of the witness may be only temporary." Dr. Knight, in answer to a question of the learned sergeant, said, "I cannot say that Rickards is now in a state of insanity."

Ludlow: The deposition cannot be received in evidence.—*Ibid. p.* 147.

T. R. B.

MISCELLANEOUS.

87. *Obituary.*—Died, suddenly, at Edinburgh, Nov. 14th, Dr. John Abercrombie.

Dr. A. was the son of the late Rev. Mr. Abercrombie, one of the ministers of Aberdeen. He took his degree at Edinburgh on the 4th of June, 1803, writing for his Thesis, "*De fatuitate Alpina.*" After studying in London for six months, he became a fellow of the Royal College of Surgeons, Edinburgh, and settled in that city. At this period Drs. Gregory and Monro Saunders were in full practice as consulting physicians. Dr. Abercrombie commenced as a general practitioner, but from the first he succeeded in gaining, to a remarkable extent, the confidence of the public. His success is said to have been owing to the assiduous attention he paid his patients. This he carried to an extent previously unknown, frequently visiting them three or four times a day. His unusual success created many rivals and enemies: these he disarmed, and even, ultimately, converted into friends, by the inoffensiveness of his conduct, and frequently by practising the Christian doctrine he professed, of returning good for evil. In 1808, he married a lady of considerable fortune, which enabled him to keep his carriage. In 1806 he made his first communication to our respected cotemporary, *The Edinburgh Medical and Surgical Journal*, entitled, "A Case of Cynanche Laryngea." It is inserted in the 12th volume of that periodical. In the pages of its subsequent numbers he became a frequent contributor, and they will be found to contain most of the cases and observations which he afterwards embodied in his well-known works on the Pathology of the Brain and Abdominal Organs.

On the death of Dr. Gregory, in 1821, he became a candidate for the chair of physic, held by that distinguished physician. Dr. James Home, however, at that time very popular as a professor of materia medica, was translated to the chair of physic, and was succeeded by the late Dr. Duncan. Dr. Abercrombie now joined the Royal College of Physicians, and gradually became the first consulting physician in the Scottish metropolis. In this capacity he acquired an extent of practice and public confidence which distanced all competitors.

Notwithstanding the harassing nature of his avocations, the contributions of Dr. Abercrombie to medical literature were numerous and important. In 1820, appeared his *Researches on the Pathology of the Intestinal Canal.* In 1828 was published his celebrated work, entitled, *On Diseases of the Brain and Spinal Cord.* It has been translated into most of the European languages, and has gone through three English editions. This was followed by an enlargement of his work *On the Intestinal Canal*, called *On Diseases of the Abdominal Viscera*, of which a second edition was required in 1830. In this year, also, he gave the public a book *On the Intellectual Powers and the Investigation of Truth*, of which popular work several editions have been published. This was followed, in 1832, by *Suggestions on the Malignant Cholera*, and in 1833, by *The Philosophy of the Moral Feelings.*

In 1835, Dr. Abercrombie was elected Lord Rector of Marêchal College and University, Aberdeen, and published his Inaugural Address, which afterwards appeared in an enlarged form, under the title of "Culture and Discipline of the Mind." In 1834, the University of Oxford conferred upon him the degree of M. D., and he was elected one of the vice-presidents of the Royal Society of Edinburgh.

In 1841, Dr. Abercrombie had an attack of paralysis, from which, however, he soon recovered, and resumed the active duties of his profession. His health remained good up to the moment of his decease. On Thursday, November 14, 1844, after eating a hearty breakfast, he was preparing to go out, as usual. The carriage was at the door, but as he remained longer than usual, a servant entered his private room, and found him lying on his face, dead.

On the following Saturday, a *post-mortem* examination revealed the following facts:—The brain was very large, weighing forty-six ounces, but healthy in structure throughout. The pericardium was distended with blood, which had been poured out from a laceration in one of the branches of the coronary artery, about four lines in length.

In reviewing the reputation of Dr. Abercrombie as an author, we cannot but feel surprised that he should have attained so eminent a scientific position, independent of those means which with other men are necessary to its acquirement. He was never physician to any public hospital or dispensary, and all the facts with which his works are enriched were derived from private practice. Yet his treatises on the Brain and Abdominal Organs embody a mass of the most interesting cases and observations, and constitute most important contributions to the subjects of which they treat. Moreover, they tended to maintain and extend the scientific claims of British physicians, and this notwithstanding the *éclat* deservedly enjoyed by the pathologists of France. His philosophical work *On the Intellectual Powers*, &c., may still be considered the most interesting and lucid introduction to a study of the mental faculties, although it emanates from the same school which boasts of Dugald Stewart, of Reid and of Brown. In his latter years, Dr. Abercrombie, by his writings, extended, in no small degree, a knowledge of the principles of revealed religion. The short essays he published on sacred truths have been most extensively read, from twenty to thirty thousand copies of each having been sold in a few years.

The private life and conduct of Dr. Abercrombie were not only irreproachable, but distinguished by the utmost philanthropy and good will towards all men. In him all the public charities of Edinburgh have lost a supporter, and many are the instances which might be related of the assistance he has rendered his professional brethren when in distress. Amongst others may be mentioned the case of a general practitioner, who, from a train of adverse circumstances, being declared bankrupt, received from Dr. Abercrombie the sum of one hundred guineas, on the day his effects were sold.

The confidence he enjoyed amongst the profession was deservedly great. He never attempted to supplant a brother practitioner, or ingratiate himself with the public by means unworthy the dignity of the physician. His manner toward a patient, indeed, was characterized by great taciturnity, although never by rudeness. All his appointments were kept with scrupulous exactitude, and to this, as well as the gentlemanly conduct he pursued in his consultations with the profession, must be attributed much of the extensive confidence they placed in him up to the moment of his death.—*Lancet*, Nov. 23d, 1844.

AMERICAN INTELLIGENCE.

ORIGINAL COMMUNICATIONS.

On the Preservation of the Human Body for Anatomical Purposes. By W. E. Horner, M. D., Professor of Anatomy in the University of Pennsylvania.

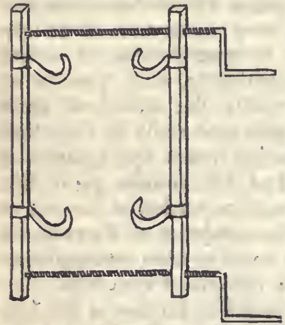
Various plans and substances have been proposed for this very desirable object, but there are none, as yet made known, which meet every requisite. Antiseptic articles are sufficiently abundant, it is true, and will be found in many of the metallic and alkaline preparations. The most prominent among the former are white oxide of arsenic and muriate of mercury, and among the latter are muriate of soda, nitrate of potash, muriate of ammonia, the aluminous salts and some others. There are very few neutral salts indeed which do not possess, to a limited extent, this property. Alcohol and its several preparations are, in many respects, unexceptionable. We then have the various vegetable and mineral acids: creosote, the essential oils, especially that of the pinus sylvestris, elain and stearin, &c. &c. The catalogue is, indeed, very numerous, of articles having a power to resist the decomposition, by putrefaction, of animal matter. A substance, however, to be unexceptionable, must possess an absolute antiseptic property—it must not vitiate the colour of parts, neither must it affect their texture so as to alter materially or objectionably their consistence; and, last of all, it should resist the process of drying, so that parts will remain flexible and of full volume as in life. It is difficult to say, whether any anatomist has succeeded in his art to the degree of perfection thus claimed. If the accounts of Ruysch and his preparations be not exaggerated, he would seem to have accomplished all of these points, but by what process is now entombed with him.

Having tried, to some extent, nearly all the principal articles in the foregoing category, my preferences have settled down decidedly in favour of two or three of them, to wit, the muriate of soda, nitrate of potash and alcohol. The two former for the preservation of bulky articles, by injection and by external application,—the latter by steeping.

The formula which I have now used for twenty-three years, with some slight changes, as experience directed, is as follows:—

℞.—Liverpool, St. Ubes, or Turks' Island Salt,	℥xxxvi.,	avoirdupois.
Nitrate of Potash,	℥xix.,	"
Carbonate of Soda,	℥viii.,	"
Molasses, (sugar-house,)	℥iv.,	by measure.
Starch,	℥ij.	
Water,	Ovi.	Mix.

In the preparation of the above, which is sufficient for one subject, the saline constituents are to be thoroughly dissolved first of all in boiling hot water. The molasses is afterwards stirred well in. The starch should then be mixed up with cold water, Oss., and the lumps fully reduced; in that state it is stirred gradually in with the other articles, and, as soon as they begin to boil again, the whole mass swells up, and in that state should be immediately removed from the fire. On the proper reduction of its temperature, it is then fit for use. I generally make several gallons of this mixture at once, to have it at hand, but its quality is somewhat impaired by keeping. The molasses develops a fine aroma at the boiling temperature of this solution, and the starch imparts a proper consistence. The soda prevents instruments from being readily acted on by the compound. Any one or more of the above ingredients may be increased or diminished from their relative quantity to meet especial intentions. Some regard must be had, however, to the muriate of soda and the nitrate of potash, as any great excess above the quantities stated, in going too far beyond the point of saturation, will make a simple mixture clogged by the uncomminuted and undissolved particles. If the desire be to colour up the muscles more highly, the molasses may be used more freely; if the appearance of the nerves and the white tissues are to be preserved, the quantity may be decreased to a minimum. The soda may be left out entirely, but, when in, it has the property of preventing the main ingredients from hardening too much the tissues injected. If the subject to be injected is loose and somewhat œdematous, the mixture should be made thicker with starch, the object of the latter being to regulate percolation.



The best way of introducing the above mixture is as follows: The sternum should be divided in its middle longitudinally, and to get at the heart the sternum dilator, the instrument, represented in the adjoining figure, to which I called the attention of the profession some years ago, in vol. iii. p. 242, Am. Journ. Med. Sci., Nov., 1828, should be used. The two divisions of the instrument, acting each upon its side respectively of the sternum, the latter parts open four or five inches. The pericardium is then slit up, and a large pipe introduced into the root of the aorta. A syringe will do for throwing in the mixture; but the best way is by a column, of twelve or eighteen feet in height, to which for convenience is attached a flexible tube of leather of four feet in length, to conduct the injection to the aorta pipe, and furnished with a stop cock at the lower end. By this apparatus, the pressure can be exactly regulated, so as to keep the vessels full without rupturing them, and the injection pushed uniformly on. In all cases where it succeeds well, it returns by the veins, and keeps them beautifully distended as in exercise. It should be thrown in warm.

Injection through one of the collateral arterial trunks is not so effectual as from the aorta itself. I have, for the purpose of saving the sternum, tried the brachial, the femoral, the carotid and some other arteries, but always with some measure of disappointment.

If the subject is to be used immediately, the above quantity will keep it in good preservation for two months in winter; if it is to be kept during the summer and for an indefinite length of time, twice the quantity should be injected, or even more if the subject be very large. The objection to using the latter quantity where a subject is to be dissected at once, is, that it inundates rather too much, but where time is left for evaporation, the latter process corrects the over-humidity.

If a subject is to be kept during the whole summer, it should be preserved besides in a mixture of one part of common salt to four of mahogany or pine sawdust; and, to prevent its becoming too dry, it should be sealed up in lead, or surrounded by a cloth which is impenetrable to moisture, or by some other of the numerous means of insulation from the atmosphere, as a box covered well with pitch, or an old oil barrel or hogshead. A subject may be kept in this way, fit for most anatomical purposes, for an indefinite length of time. If the investment used fail in preventing evaporation and the limbs get hard, they may be easily soaked out to a proper suppleness. Insects have no disposition to molest such pieces in their dried state.

The above injection impairs the great nervous centres, as the brain and spinal marrow; also the mucous membranes and the rete mucosum, by softening them and making them puffy; a proof by the way of the quantity of neurine and nervous fatty matter entering into the composition of the rete mucosum. This influence is derived from the free alkaline matter in the injection, coalescing with the neurine, and making a half diffluent soap. Hence the cuticle always parts in ten or twelve days. Leaving the alkali out will correct this, but with another disadvantage in its place, to wit, the too great hardening of the tissues. The accident is, at best, but unimportant, as a roller imbued with tallow or wax, laid down in place of the cuticle, will resist the drying of the skin at the part.

The muscles are beautified to a remarkable degree by the injection above, and are also preserved in a firm state of strength and tonicity. I resort to it invariably in my demonstrations of the muscles, and have done so for three-and-twenty years, and should consider my arrangements incomplete without it. Whether my partiality is justified, must however, depend upon the evidence of some thousands of young men, who have been trained in their anatomy by me.

Anatomical pieces preserved this way, do not make good spirits of wine preparations for suspension; the salts and the molasses are constantly tinging that fluid. If the pieces are to be shown by direct handling, the turbidness of the fluid is inconsequential, and the muscular fibre, though its colour is changed by the spirits of wine into a dark olive, yet has its character very strongly developed in parts where it may previously have been equivocal. The fibre is also rendered somewhat more brittle, and the cellular substance more distinct by it. A muscle thus treated, becomes a fine subject for unravelling and for study. The arteries distended in this way, are for a short time rendered very soft and extensible, and receive a much fuller amount of the common coarse injections. Some delay should be had before the latter, so as to allow the saline injection to pass off, and the aorta should at any rate be emptied of it. The injection has a fine effect in developing the tissue of an artery, especially if the latter be steeped previously in alcohol.

The skeleton, the ligaments and the cartilages, are made extremely firm by the injection above, so that in boiling the gelatin is not formed so readily; and maceration in water seems to produce, even in very hot weather, scarcely any effect in accelerating putrefaction of these parts. Skeletons thus injected, though much more durable and heavy, when prepared by boiling, than others, yet never can be well bleached, but always retain a brown tinge.

Upon a dissected surface a soapy glairy formation will occur after a few hours exposure to the air: this may be partially corrected by an envelop saturated with tallow.

Some other considerations might be added, but this communication is perhaps already too long, and I will therefore say, after some experience, that I know no other preparation, which has attracted public attention and commendation, whose properties are in the aggregate equal to the above. It has moreover the advantage, that the formula is almost a domestic one for the preservation of meat, and is under a somewhat modified application, one of the most useful and indispensable in the nautical and household economy of nations.

As to the vaunted preparations of arsenic, they are certainly antiseptic, but poison the dissector's fingers, and add nothing to the qualities of the parts for dissection, indeed rather impair them. Mr. Ganale's preparation of alum is also antiseptic, like all the other forms of this earth, but spoils completely the colour of the muscles, and also hardens them and other parts too much. It has in this respect a similar effect to corrosive sublimate, which of all articles is the most potent, both for preventing and for arresting putrefaction, but like arsenic exposes the health of the operator, and also, by its ready action upon the albuminous constituent of our tissues, confounds them all into a hard, drab-coloured undistinguishable texture.

I will make a few remarks on alcohol, or spirits of wine, from my own observation. There is no other fluid which I think equal to it for wet preparations; and those who claim for the dilute acids, and the solutions of neutral salts an equal value, have overlooked too much the constant precipitating of their solid constituents, so as to obscure the preparation and make the fluid finally turbid; at least I have tried none against which this objection did not hold. When alcohol is used, the blood should be removed from the specimen by soaking it for a time in fresh clear water, frequently changed; then at least three times its weight of alcohol should be used, and the specimen so arranged that the alcohol shall be in contact with its whole surface: massive pieces should be cut into, to give to the spirits a proper access. When the preservation of the white tissues is concerned, the alcohol is most exactly suited to them. My most usual strength of it is about 26° of the glass float of Cartier, or 60° of the centesimal float of Gay Lussac. A bulky anatomical specimen, from the quantity of water it discharges, will dilute the spirits of wine probably six or eight degrees, but at least several, and a great state of dilution always incites to softening and maceration, so as to spoil the piece.

A good spirits of wine preparation, properly made, and suspended, is constantly improving in the perfection of its appearance, and is decidedly better at the end of twenty years, than at the beginning of them, so far as the condition and appearance of the tissues are concerned. Alcohol can generally be got of the strength named, at seventy cents a gallon; it is therefore not very expensive in this country, to keep up anatomical cabinets of wet preparations. In Europe, the excise duties impose a much higher price, and the anatomists are therefore, constantly attempting to adopt a cheaper substitute.

It is difficult to get glass or stone vessels of sufficient size for large anatomical pieces to be kept in spirits of wine. Vats of lead are used to some extent, but a carbonate of lead is formed in large quantity, which, being precipitated on the specimen, spoils its surface, and makes it ragged and opake. I have tried zinc partially, and find it to answer better, but time is wanted to mature the observation.

Proceedings of the Association of Medical Superintendents of American Institutions for the Insane.

At a meeting of a number of the Medical Superintendents and Physicians of Hospitals and Asylums for the Insane in the United States, convened at Jones' Hotel, in the city of Philadelphia, on the 16th of October, 1844, SAMUEL B. WOODWARD, M.D., of the Massachusetts State Lunatic Hospital, was appointed *President;* SAMUEL WHITE, M. D., of the Hudson Lunatic Hospital, *Vice-President;* and THOMAS S. KIRKBRIDE, M. D., of the Pennsylvania Hospital for the Insane, *Secretary* and *Treasurer.*

On motion, a committee was appointed, to designate the names and stations of those gentlemen who were present and entitled to seats as members of the convention, who reported the following, viz.:

Dr. *Samuel B. Woodward*, of the Massachusetts State Lunatic Hospital at Worcester.

Dr. *Isaac Ray*, of the Maine Insane Hospital at Augusta.

Dr. *Luther V. Bell*, of the McLean Asylum for the Insane at Somerville, Mass.

Dr. *C. H. Stedman*, of the Boston Lunatic Hospital.

Dr. *N. Cutter*, of the Pepperell Private Asylum, Mass.

Dr. *John S. Butler*, of the Connecticut Retreat at Hartford.

Dr. *Amariah Brigham*, of the New York State Lunatic Asylum at Utica.

Dr. *Samuel White*, of the Hudson Lunatic Asylum, at Hudson, N. Y.

Dr. *Pliny Earle*, of the Bloomingdale Asylum, N. Y.

Dr. *Thomas S. Kirkbride*, of the Pennsylvania Hospital for the Insane at Philadelphia.

Dr. *William M. Awl*, of the Ohio Lunatic Asylum at Columbus.

Dr. *Francis T. Stribling*, of the Western Asylum of Virginia at Staunton.

And Dr. *John M. Galt*, of the Eastern Asylum of Virginia, at Williamsburgh.

On motion, a committe was appointed to prepare business for the action of the convention, who proposed the reference of a number of important subjects to appropriate committees, to report at a future meeting; which suggestion was adopted by the convention, and the following committees appointed, viz.:

1. On the Moral Treatment of Insanity, Drs. Brigham, Cutter, Stribling.
2. On the Medical Treatment of Insanity, Woodward, Awl, Bell.
3. On Restraint and Restraining Apparatus, Bell, Ray, Stedman.
4. On the Construction of Hospitals for the Insane, Awl, White, Bell, Butler, Galt, Ray.
5. On the Jurisprudence of Insanity, Ray, Stribling, Stedman.
6. On the Prevention of Suicide, Butler, Kirkbride, Earle.
7. On the Organization of Hospitals for the Insane, and on a Manual for attendants, Kirkbride, Brigham, Galt.
8. On the Statistics of Insanity, Earle, Ray, Awl.
9. On the Support of the Pauper Insane, Stribling, Bell, Ray.
10. On Asylums for Idiots and the Demented, Brigham, Awl, White.

11. On Chapels and Chaplains in Insane Hospitals, Butler, White, Stedman.

12. On Post-mortem Examinations, Kirkbride, Stedman, Galt.

13. On the Comparative Advantages of Treatment in Hospitals and in Private Practice, White, Ray, Butler.

14. On Asylums for Coloured Persons, Galt, Awl, Stribling.

15. On the Proper Provision for Insane Prisoners, Brigham, Awl, Bell.

16. On the Causes and Prevention of Insanity, Stribling, Kirkbride, Brigham.

The various subjects referred to the different committees were freely discussed by the members of the convention, and partial reports received from several, which were accepted, and all the committees were continued, to report in full at the next meeting.

The Committee on Statistics recommended that, in future, the following subjects should be made matter of record in the different institutions, viz.: The monthly number of admissions, discharges and deaths of each sex, with the mental condition in regard to recovery of those discharged, the civil condition of the patients, and their ages at the time of the first attack of insanity, as well as that of admission. And while not feeling prepared to urge, at this time, the adoption of any other subjects for uniformity of report, they would cordially encourage the investigation of any other topic that may be suggested to individual minds, as of utility to the general cause in which we are engaged.

On motion,

Resolved, That the Medical Superintendents of all Insane Hospitals in the United States be requested to have their annual reports published in octavo form, and of the size generally adopted.

Resolved, That the title of this body shall in future be "THE ASSOCIATION OF MEDICAL SUPERINTENDENTS OF AMERICAN INSTITUTIONS FOR THE INSANE."

Resolved, That the Medical Superintendents of the various incorporated and other legally constituted institutions for the Insane, now existing in the United States, or which may be commenced prior to the next meeting, be, and they hereby are, elected members of this Association.

Resolved, That any member or members of this Association who may be in Europe at the time of the meeting of the convention of physicians to institutions for the insane in Great Britain, be authorized to represent this body at that meeting, and that the President and Secretary furnish the proper credentials.

Resolved, That the thanks of this Association be presented, through the Secretary, to the "Prison Discipline Society of Philadelphia," and to the medical gentlemen of the same city, for their polite attention to the members of the Association during its present session.

Resolved, That an abstract of the proceedings of the Association be published in the American Journal of Insanity, and in the American Journal of the Medical Sciences.

The Association continued its session until the evening of the 20th of October, and then adjourned, to meet in the city of Washington on the second Monday of May, 1846.

By order of the Association:

THOMAS S. KIRKBRIDE, *Secretary.*

Cases of Congestive Fever. By ALEXANDER H. PERKINS, M. D., of King Wm., Virginia.

Until within the last few years congestive fever has been unknown in Eastern Virginia, or if it occurred at all, it was only in a few sporadic cases, not perhaps recognized by physicians. Of late it has become quite common, and proved very fatal. The following cases, selected from many others, are detailed principally to exhibit the efficacy of *Quinine in the Paroxysm.*

CASE I.—Oct. 9. Was called in consultation to see Mrs. L. For several days past she had had regular exacerbations and remissions, with some symptoms of congestion. At 11 o'clock, found her very restless, with great prostration, livid and anxious expression of the face, extremities cold, pulse frequent, feeble, and very irregular, with great thirst. Had complained of nausea and burning in the stomach since the commencement of her attack, which symptoms were now very distressing. She had been treated with purgatives (calomel and colocynth), blisters to extremities and epigastrium. Ordered brandy and water to be given cautiously, and a strong salt water enema, which brought away a dark tar-like matter. The stomach became more composed, pulse fuller, and the extremities warmer, though the burning and thirst still continued; gave ice to allay these last symptoms. This situation continued until evening; the pulse then became worse, and the restlessness much greater. Advised quinine in six gr. doses every two hours, until its peculiar effects were manifested upon the head; a purgative of calomel and colocynth, and enemata to aid its action, until the dark matter ceased to be discharged.

10*th.* Not much improvement; pulse still bad, with restlessness and thirst; head not affected by the quinine, which had by mistake been given in small doses; gave six grains immediately, and ordered it to be repeated every two hours, until the head became affected, and enema twice during the day, or oftener if the passages still continued dark.

11*th.* Found her a little improved; pulse rather better; more composed; slight moisture upon the forehead; the bowels had been moved without the assistance of an enema; the quinine had affected the head. Quinine to be again used after its effects upon the head had in a measure subsided; enemata as before; soup allowed.

12*th.* Much improved; skin disposed to moisture; pulse full and regular; bowels soluble, and the head much affected with quinine. From this time improved; and under the use of twenty-four grains of quinine daily, for several days, she perfectly recovered.

CASE II.—Aug. 22. Col. ——. Had had several fevers with regular exacerbations and remissions, the usual course of our bilious remittent fever; 10 o'clock, A. M., pulse feeble, frequent and irregular; extremities cold; great difficulty of respiration; considerable uneasiness about the epigastrium, and some retching; countenance anxious, and restlessness extreme; ℞—Mustard cataplasms of large size to the epigastric and cardiac regions; calomel and colocynth, and enema of strong salt water, and *quinine* in ten grain doses, every hour and a half.

23*d.* Passed a restless night; pulse not much improved; restlessness still considerable; extremities warmer; distress about the epigastrium very great; no action from the purgative. ℞—Blister to the epigastrium and cardiac region; croton oil, gtt. ij; calomel grs. 20; *quinine* as before.

24th. Some slight improvement in the pulse, veins fuller, blister well drawn, and the gastric distress in a measure relieved; no action of the bowels, and the head not affected with quinine; ℞—Croton oil, gtt. ij; calomel, grs. xxx, divided in two portions, the second to be given four hours after the first, if no action; enemata to assist it; quinine in same doses every two hours.

25th. Had passed a restless night, though now more quiet. Has had but one evacuation from the purgatives; pulse not much freer; temperature as the day before; complains of deafness, &c., from the quinine. ℞—Soda powders; enemata during the day; *quinine* to be again used in the same doses every three hours, after the effects somewhat subsided.

26th. Much improved; skin warm, soft and moist; bowels had acted freely; distress of the stomach had ceased; head considerably affected with quinine. From this time he continued to improve; quinine continued in smaller doses for several days.

Case III.—Aug. 1. Was called in consultation to C. H. B., labouring under congestive fever, which was the ninth day of his attack, and he said his third *bad ague.* Up to this time he had had regular intermissions; pulse now nearly extinct, skin cold, and bathed in clammy sweat; hands looking shrivelled as if they had been a considerable time immersed in water; countenance anxious, complexion livid; no difficulty of respiration, and no nausea. He had been treated with purgatives; I advised *quinine.* His attendant, with me, was opposed to *large* doses, and we gave it in two grain doses every two hours, with ten drops of laudanum, and some camphor and brandy in the intervals; applied mustard over the stomach and abdomen and to the extremities, and ordered stimulating enemata. No impression was made upon the disease, and he died within twelve hours.

From the above cases, it will be seen that we rely upon *quinine in large doses* in the treatment of congestive fever. The other remedies used, we consider as mere adjuncts. Quinine in small doses we believe is of no avail. The system should be brought under its influence as speedily as possible, and the insensibility to its action is so great, that the system cannot be affected by small doses.

The cases have been detailed to exhibit the efficacy of quinine in the cold stages. In the intermission all admit its utility. We have invariably observed, that when the head becomes affected by quinine, showing that the system is brought under its influence, the disease begins to yield. In Case II. several hundred grains were used before the system was brought under its influence; and it will be observed that, until this occurred, the bowels were exceedingly torpid. Case III. occurred in a man of intemperate habits. This case we are assured could have been saved by the bold administration of quinine.

DOMESTIC SUMMARY.

Mortality among Children in St. Louis. By Dr. Victor J. Fourgeaud, M. D.—The summer and autumn in St. Louis appears to be attended with great prevalence of sickness and mortality among children. The very alarming increase in the deaths, during the months of July and August of the year 1843, induced Dr. Fourgeaud to devote particular attention to the subject, the results of which he has communicated to the public in the pages of the *St. Louis Medical and Surgical Journal*, (No. 12, for March, 1844.) The investigation includes the years 1841, 1842 and 1843.

The population of St. Louis in 1841, was computed at 30,000. The whole number of deaths in that year was 935, of which 488, or more than half, were children under seven years of age. Of the whole amount of mortality, 216 deaths occurred in July, 147 in August, 122 in September, and 121 in October, leaving only 329 deaths distributed through the other eight months of the year. The infantile mortality shows 133 deaths in July, 87 in August, 58 in September, and 47 in October, leaving only 163 deaths for the other eight months of the year 1841.

In 1842 the mortality did not run so high, the whole amount being 658, of which 270 were under the seventh year. But in 1843 a great increase occurred, the whole amount being 1139, of which 645 were children under the seventh year. During the months of July, August, September and October, the total number of deaths amounted to 770, and those under the seventh year to 477, of which 209 took place in the month of August alone.

Taking the three years together, the deaths under the seventh year amount to 1403, whilst those at all other ages amount to 1329; the sum total of mortality, including adults and children, being 3732. Thus, the average mortality of St. Louis, estimated by the three years mentioned, is one death per annum to every thirty-three of the population.

The diseases which proved most fatal to children were cholera infantum, which in the three years carried off 238; convulsions 147; consumption and marasmus 67; measles 59; dysentery 54; croup 50; dentition 48; inflammation of the lungs and appendices 47; inflammation of the brain 40; fevers 63; diarrhœa 39; whooping cough 39; hydrocephalus 30; enteritis 21—297 deaths set down under the head "unknown." Thus it will be perceived that more than one-third of the mortality of children is reported under the heads of cholera infantum and convulsions.

Among the tabular views presented by Dr. Fourgeaud, is one showing the different ages of the children who died of cholera infantum during the three years. From this it appears that out of a total of 238, 149 died before the completion of the first year, 71 between the first and second years, and only 18 between the second and seventh years. The disparity between the male and female deaths is larger than might be expected after allowing for the greater proportion of male births. Thus, 140 are designated as males, whilst the deaths of females only amount to 91.

After indulging in some speculative views in relation to the causes of cholera infantum, Dr. F. states it as his sincere belief, that the unusual mortality from this source in St. Louis, is to be attributed to the want of proper medical attendance. He observes, "I neither desire nor intend to insinuate aught against my fellow practitioners; on the contrary, our city has reason to be proud of her physicians. It is not to them, nor to their malpractice, that this great mortality must be attributed. Mothers! it is because you neglect to seek their aid; it is because you do not employ, or employ them too late, that so many of your offspring are torn from your embraces." To ameliorate the condition of children in St. Louis, especially those of the poor, Dr. Fourgeaud strongly recommends the establishment of a hospital especially devoted to the treatment of infantile diseases. There, he says, they would be removed from those obscure haunts in which they die from the effects of an impure atmosphere, and the want of the absolute necessaries of life. There, in addition to a purer air, they would have cleanliness, comfortable clothing, and proper medical attendance.

In demonstrating the extent of a great source of suffering and mortality among his fellow citizens, Dr. F. has displayed both intelligence and zeal in the cause of humanity. His recommendation is a good one, and merits the attention not only of the philanthropic citizens of St. Louis, but of other American towns, where cholera infantum swells the bills of mortality. G. E.

Extraordinary Effects of a Stroke of Lightning. By John Le Conte, M. D., of Savannah, Ga.—(*New York Journ. of Med.*, Nov., 1844.)—Five negroes were simultaneously prostrated by a single stroke of lightning on a plantation in Georgia. The sun was shining brilliantly at the time, and a greater portion of the visible hemisphere presented the usual serenity of the summer sky. A singular and rather angry-looking cloud had, for a short time previously, been observed near the verge of the south-eastern horizon, from which occasionally proceeded the low rumblings of very distant thunder. Suddenly the whole atmosphere was illumined by a flash, succeeded by a single report, and the cloud quickly dispersed precipitating a little rain. The five negroes were all taken up in a state of apparent death.

"Case 1.—A negro girl, Adeline, aged about thirteen years, was up in the branches of a small mulberry-tree, twenty feet high, and standing sixteen feet in front of a line of negro houses, which extended parallel to a wood situated one hundred yards in the rear of the same. She was engaged in throwing down the fruit for her little companion below. Every principle of life seems to have been instantly extinguished by the intensity of the electrical shock:—her body had to be taken down from the branches of the tree where it had lodged. No marks of external injury observed.

"Case 2.—Another female child, Kitty, aged about six years, was standing immediately under the tree. She was instantaneously killed. No superficial marks of injury observed.

"Case 3.—Chloe, an adult woman, aged forty years, was walking about ten feet more remote from the base of the tree than the latter child; and, also, *about five feet more distant than the two who survived the shock*, viz.: than cases 4 and 5. She was instantly killed. No marks of injury recognized, excepting a burnt spot, the size of a dollar, under the right axilla. Her clothes were set on fire; but this was probably occasioned by the breaking of a tobacco pipe which she was smoking at the time, and which scattered the ignited contents over her cotton garments. In the three cases above-mentioned, all the ordinary attainable means of resuscitation were tried without success.

"Case 4. Charlotte, an adult woman, aged twenty-nine years, *was standing half-way between cases* 2 *and* 3, and, consequently, about five feet from the root of the tree. After remaining in a state of insensibility for some time, she gradually recovered her consciousness. A dose of castor-oil was then administered. The skin on her right shoulder was abraded for a space as large as a dollar. Her clothes were rent into shreds; on the right side of her body, the skin was blistered and marked with discoloured streaks, which extended anteriorly on the lower portion of the abdomen towards the pubes. A small streak likewise extended along the interior aspect of the right arm. She complained of pain in the stomach and bowels for *three weeks.* No vomiting or burning in the hands and feet, as was experienced in the next case. She has been married several years, but has never been pregnant. Her *menstruation* was perfectly *regular* prior to the reception of the shock; but has *since that time* been very *irregular;* sometimes having *two periods* per month, and then escaping *two months.* The flow has also been much diminished in *quantity.* Her health has not been very good since she was struck; manifestly resulting from her menstrual irregularity. A recent copious bleeding has afforded her evident and immediate relief. Her reproductive functions appear to continue dormant.

"Case 5.—Sarah, a woman aged, *at least* seventy years, was standing immediately beside the last. She, likewise, gradually recovered her consciousness. No medicine was administered. Her clothes were rent; and after a few days, marks of discolouration were manifested along the right arm and right side of the trunk. A violent paroxysm of vomiting followed the restoration to a state of sensibility; which continued, with occasional interruptions, for ten or twelve hours. As in the preceding case, she complained very much of pain in the region of the stomach and bowels, for at least two weeks after the accident. A troublesome sensation of *burning* was experienced in the palms of her hands and the soles of her feet; and in the course of two or three weeks a swelling made its appearance under the right foot, which ultimately resulted in the exfoliation of a portion of the thick, indurated epidermis of that part, about one and a half inches in diameter.

"The *catamenial discharge*, which had, in accordance with the ordinary arrangement of nature, ceased for more than twenty years, *was completely and, thus far, permanently re-established!!* At least, a discharge from the genital organs, having all the obvious and sensible physical characters of the *catamenia*, and observing, with vigorous exactitude, its peculiar law of periodicity, has been established, and continues to recur, with the utmost regularity, up to the present time, (Aug., 1844,) after the lapse of more than a year! She has not missed a single menstrual period since she was struck by lightning. To use a liberal paraphrase of her own language, her 'Moons return as regularly as when she was a young woman.' The flow comes on with the usual premonitory symptoms. Her *mammæ* have undergone an obvious *preternatural enlargement*, apparently originating in a sympathetic irritation, emanating from the establishment of the reproductive functions. This woman has had but one child, to which she gave birth, soon after reaching womanhood. The catamenial flux is represented to have been regular up to the period of its natural cessation, between forty-five and fifty years of age; subsequent to which epoch, she has presented all the appearances ordinarily attending the gradual approach of the state of senility in a vigorous constitution. The electrical shock, likewise, completely relieved her of a troublesome *strangury* which had harassed her for four or five years. Very recently she has, occasionally, had a slight recurrence of the same complaint, although under a much milder form. Otherwise, her health continues perfectly good; there being, so far as symptoms show, not the slightest indication of the supervention of organic disease of the uterus."

Removal of a Diseased Ovarium. By J. D. Bowles, M. D., of Harrison, Ohio.—(*Western Lancet*, Oct., 1844.)—"Mrs. Brant, ætat. 25, in the middle of August, 1843, for the first time, noticed a small tumour in the left hypogastric region, which had unceasingly continued to increase; it now occupies the whole lower part of the abdomen, and extends upwards to midway between the umbilicus and ensiform cartilage; it is very movable in a lateral and somewhat in a vertical direction; its surface feels hard and uneven as if lobulated.

"Upon examination the vagina and os uteri feel healthy; the direction of the vagina inclines to the left; pressure to the right of the neck of the uterus gives slight pain; here, through the vagina, the tumour can be felt. She complains of pains in the lumbar region, and down the thighs, at times resembling those of parturition. The urine is frequently and rather painfully voided. The bowels are inclined to be costive; in other respects, the various functions of the body are performed in a healthy manner.

"Her habit is spare, and has been so from the commencement of child bearing; she has borne four children."

Drs. Crookshank, Fuller and Harrison advised an operation, to which the patient assented.

On the 4th of August a dose of castor oil was given to the patient; and the next morning, in the presence and with the assistance of Drs. Fuller, Crookshank, and Francis, Dr. Bowles proceeded to operate upon the plan pursued by McDowell, Lizars, and Clay.

"The patient having her bladder and rectum evacuated, was laid on a table; her head resting on a pillow; her legs hanging over the end, and her feet resting on a chair.

"*Operation.*—Avoiding the umbilicus, an incision nine inches in length was made through the linea alba, from the upper part of the tumour to the symphysis pubis. Upon drawing aside the parietes, the tumour might be seen through the greater omentum, which passed down in front of it: upon endeavouring to raise it, it was found adherent to the tumour. The adhesions were readily separated by the handle of the scalpel or fingers. There were no adhesions on the posterior part. In endeavouring to raise it from the right iliac fossa, its attachment to the broad ligament of the uterus, which formed the pedicle, was brought into view; the pedicle was about two inches wide, its broad surface closely adhered to the tumour, its blood-vessels were large and distended; following its course for a short distance, the finger could be passed around it; here a ligature of double silk was applied, and firmly tied, and passed through the pedicle between the tumour and place of application; the broad ligament was then cut through. Endeavouring to raise it from the right iliac fossa, was found firmly bound down by adhesions to the uterus and bladder; the close adhesion of the tumour to the former gave to the hand, when examining it from behind, a sensation as if their structures were intimately blended into one consolidated mass, but as soon as the pedicle was divided, upon raising the tumour in front, the adhesions between it and the fundus of the bladder and uterus, were easily separated by the handle of the scalpel, and the tumour removed. We inclined her on one side, that the accumulated blood might escape, of which not more than six or eight ounces were lost, and not a jet of arterial blood was seen.

"Upon being replaced in her former position, vomiting occurred which forcibly protruded the intestines from the wound, and rendered it somewhat difficult to replace them, but Dr. Fuller by well directed pressure resisted the propulsive action, and stimuli being administered the vomiting subsided. The wound was then closed by an interrupted suture of five stitches. At distances of an inch and a half, long strips of adhesive plaster, reaching across the abdomen, were applied between the sutures; a long compress on each side of the wound; raw cotton over it; and a broad bandage surrounding the body, enveloped the whole.

"Since the operation she has gone on well, and has had nothing to complain of, excepting that on the remainder of the fifth and until the evening of the following day, her stomach would retain nothing; it yielded to an effervescent, or gruel. From that period she cannot be said to have had an untoward symptom. Her diet was the mildest that could be suggested; a dose or two of morphine has been the only medicine administered.

"To keep her abdominal muscles at rest, her urine was constantly drawn off by the catheter, and her bowels washed out by enemas; to prevent distension from flatulence a tube was kept in the rectum.

"Three of the sutures were removed on the 9th, one on the 10th, and the remaining one on the 11th.

"Adhesion has taken place (with the exception of an inch near the lower part) throughout the wound; the ligature is not yet come away. The urine and fæces are discharged without difficulty or assistance.

"Her appetite is good; her health better than before the operation. We have no doubt of her ultimate recovery.

"To Dr. Crookshank's kindness in taking her to his home, and the advantage she has derived from his constant attention, must be attributed in a great measure, the mildness of the subsequent disturbance which she has experienced from this formidable operation.

"The tumour weighed five lbs.; its external appearance resembled the human brain enveloped in the pia mater; upon dividing it, the interior appeared quite solid, resembling the mammary gland, having a dense white appearance, agreeing with Dr. Good's definition of the emphyma mammarium. It measured in its shortest circumference fifteen inches, in its longest twenty-two and a half."

The adhesions and solidity of the tumour would have rendered its extraction totally impossible by the short incision. The propriety of operating in the linea alba was manifested by finding the pedicle to be the right broad ligament, instead of the left, as we expected from the history given by the patient.

Rupture of the Spleen.—A robust man, about 40 years old, was engaged in a scuffle with another of the same size, and received one blow from the fist of his opponent, in the left hypochondriac region; the combatants then clenched each other, and so equal were their exertions for five or ten minutes, that it seemed doubtful which would come off victor; at length, however, the strength of J. W. seemed suddenly to fail. He turned pale, staggered and sunk helpless upon the ground, complaining of nausea, faintness and pain in the left side. He was carried, in a sinking condition, a short distance to a house, where he expired, in about fifteen minutes after the termination of the conflict.

On dissection, twenty-four hours after death, no marks of violence were observed on the exterior. The cavity of the pericardium contained about two ounces of effused serum. In other respects, the contents of the thorax appeared natural. But upon cutting through the abdominal parietes, exit was given to between two and three quarts of dark, partially coagulated blood. An extended incision brought into view the spleen, enlarged to about five times its natural dimensions, and so soft in texture as to be easily broken down under slight pressure from a finger. Upon its posterior surface, was a lacerated fissure of about five inches in length, extending deep into the centre of the organ. It was evidently from the divided blood-vessels of this torn structure, that internal hæmorrhage had taken place to such an extent as to cause immediate death.

The coroner's verdict was as follows:—"Death from lacerated diseased spleen, caused by a blow, fall or over-exertion, while engaged in a scuffle with B. R." B. R. was tried for manslaughter, and acquitted, by the Circuit Court.—*Dr. Herrick in Illinois Medical Journal.*

A case very similar, in its leading particulars, is given in this Journal, 1st series, vol. vii. p. 549, from Rust's Magazine. T. R. B.

Fracture during Pregnancy.—Dr. H. C. Marthens relates, in the *St. Louis Medical and Surgical Journal*, (Oct., 1844,) a case of fracture of the radius in a woman 30 years of age, at the time in the seventh month of pregnancy. The fracture united firmly in one month, as short a period as union would have occurred under ordinary circumstances.

Opium a Hazardous Remedy in Strangulated Hernia.—The following cases were related to the New York Medical and Surgical Society, with a view to show the danger of using opium or its preparations when strangulation of a hernia is suspected; the symptoms of strangulation being masked by the medicine, and the operation consequently being deferred until too late to be successful.

Dr. Buck stated that he was called to operate on a lady aged sixty, whose hernia (femoral) had been strangulated two days. She had been put under the influence of tobacco and an anodyne injection administered on the first day she was taken ill, which was Sunday. On Monday she was found in a state of profound narcotism. On Tuesday, Dr. Buck was called in. The patient then lay in a stupor, and did not appear to suffer. The hernial tumour was large, and its contents were omentum and intestine. The operation was performed the same day, and death ensued thirty-six hours thereafter. On examination, the strangulated portion of intestine was found of a purplish brown colour.

Dr. Watson reported as follows:—A lady, aged sixty-four, a rather small and spare woman, about six weeks before the present attack, was seized with severe and sudden pain in the bowels, which was considered bilious colic. She was treated with very large and repeated doses of opium, which for the time overcame the pain. On Tuesday, May 28th, while busying herself about her household duties, she was again taken as before, and the former treatment resorted to. The amount of opium was very great, some ten or twelve grains per diem for several successive days. The pain was effectually overcome, and the only evidence of a narcotism produced, was a pleasant hallucination without sleep, and a tingling or itching sensation over the whole body. She continued under treatment in this way up to the evening of May 31, and, as a small swelling had recently been detected in the right groin, and her bowels had not been opened for nearly three days and a half, a consultation was requested. Dr. W. now saw her for the first time, about 9 or 10 o'clock at night, and recommended the operation. Some hesitancy existing, Dr. Mott also met the other attendants in consultation at midnight. The operation was resolved upon, and was performed by Dr. Watson. The hernia was femoral; no fluid existed in the sac.

The protrusion was small, and the parts united by adventitious adhesions, the result of inflammation, probably existing there since her first attack some six weeks before. On the next day the narcotic condition still existed, bowels still constipated, notwithstanding the use of oil and enemata. On June 2d, the bowels were freely and spontaneously moved for the first time. After this, all evidence of narcotism subsided, and the case began to promise well. The wound was dressed on the sixth day, and it was then dry, and appeared to have united by the first intention, but in a day or two afterwards it opened and gave issue to a very offensive discharge, which excoriated the surrounding parts. The whole of the pubic region and the right groin became inflamed, and the discharge for several days appeared to increase in quantity, and become more offensive. On the 8th June, a large slough was found lying under the integuments in the bottom of the wound, which was removed. Portions of fæces appeared on the dressings. The wound gradually contracted, and she continued under treatment until July 15, when a truss was applied.

Another instance was mentioned by Dr. Watson. The husband of a female aged sixty, objected to the performance of the operation on his wife, and in consequence it was deferred from hour to hour. Sixty drops of laudanum were given to allay irritation, and a consultation called. Croton oil was prescribed to relieve the bowels. At the next meeting the patient was so comfortable and free from pain that the operation was deferred until the next morning, when she was found moribund, being twenty-four hours from the occurrence of the strangulation.—*N. Y. Journ. of Med.*, Nov., 1844.

Yellow Fever at Woodville, Miss.—Woodville, an inland town, in Wilkinson county, Mississippi, near the south-west corner of the State, with a population of about 750 inhabitants, suffered the past summer from a remarkable and very severe visitation of yellow fever.

The following extracts of a letter from a Medical Practitioner, to the editor of the *Western Lancet*, furnishes some curious details respecting this visitation:

"The town of Woodville is situated about twenty-eight miles from Bayou Sara, on the Mississippi; about forty from Natchez, and about fifteen or twenty from the Mississippi river. It is situated on high ground with a gradual slope in all directions, leading off into hollows that run up within a quarter or half mile of the town, forming the heads of Thompson's creek, the Buffalo and other little branches. There is no creek or ponds or low lands in the immediate vicinity. The town is built very compact, formed in a square, with the Court House in the centre. In short, when you view the surrounding country and the town, you would pronounce it to be one of the most eligible sites for a town of health in the South. I have walked around and through the place; every thing seemed neat and airy, no appearance of filth, no large collections to putrify and render the place unhealthy—no one would or could, in my estimation, pronounce Woodville a filthy place. And yet, strange to tell, we have been visited with that desolating disease, *Yellow Fever*. And what renders the analysis more difficult, is the fact, that all the surrounding towns are remarkably healthy for the season of the year. The yellow fever does not prevail at New Orleans; there has been only one or two cases in the place, and they confined to the Hospitals. It does not prevail at Bayou Sara. There has not been a single case either at Bayou Sara or Natchez, or any place along the river; consequently you see the utter impossibility for the disease to have been brought here. We find no adequate cause existing in the place itself, for I have seen towns three times filthier, and more favourably situated for such a disease, and yet escape. * * * I have heard it remarked since the prevalence of the epidemic, that even the birds have left Woodville and its precincts, not one is to be seen in or about the town; usually there are a great many. We have had no rain of any consequence for weeks, and it has been quite warm, but not more so than any other season. * * * I presume no one will doubt the fact of its being genuine *yellow-fever* when they are informed that physicians who have practised in New Orleans for years and have seen hundreds of cases, perhaps thousands, unhesitatingly and unequivocally pronounce it the yellow fever. Nearly every man in the place has had the disease. But what fatality for such a small inland town, the disease has been prevailing a week up to this time, and from seven to ten deaths have occurred every day, and Heaven only knows when it will cease its desolations. It is very rapid in its course, the victims are seized with a violent pain in the head, pains in the lumbar portion of the spine, in the knees, accompanied with a burning fever; in a short time they commence vomiting, throwing up something similar to coffee grounds, called the black vomit, and in a few hours death closes the scene; there is a great similarity in the attacks; after death they turn yellow, this I have seen with my own eyes. Another very remarkable thing, it is spreading into the country; on some of the plantations there are fifty cases, and others occurring. From some of the plantations they had occasion to send to town, and invariably the servant has returned with the disease, although he remained but a few minutes in town, and, in this way, they have carried it into the country. Nearly every individual that visits Woodville after returning home, in a few hours is taken sick, and the majority of them die. I have not been informed of the exact amount of deaths as yet; the epidemic is rapidly prevailing."

Drs. C. De Valetti and Thomas M. Logan, a committee of the Medico-Chirurgical Society, delegated to investigate the nature and origin of this outbreak of yellow fever, furnish, in their report, some farther particulars, the most important of which we shall quote. The report is published in the *New Orleans Medical Journal* for Oct., 1844.

"Woodville," says the committee, "is an inland town, situated in Wilkinson county, near the south-west corner of the State of Mississippi, lat. 31° 10′, and 8 miles from the boundary line of Louisiana. The distance in a direct line from the Mississippi river, which is the nearest river or swamp, is 15 miles, but as the whole surrounding country is rolling and much broken, the route by railroad or stage is about 26 miles. The town is elevated to the height of 340 feet above the bank of the Mississippi river, as has been well ascertained by the engineers who constructed the railroad from Bayou Sara and St. Francisville, which terminates here. The town covers a space of about 8 or 10 acres: the houses are not crowded together,—the streets are wide and planted with trees, and there is a large public square in the centre. The population has increased very gradually since the first settlement of the town, about 40 years ago. No sudden emigration of any consequence has ever been observed previously to the last 3 years, during which period some Dutch emigrants have located themselves here; but the number is inconsiderable. The soil of the town and adjoining country is rather worn, and consists of a mixture of clay and sand to the depth of about 15 feet, where a thick stratum of gravel next presents, through which numerous springs of clear, wholesome and pleasant water are occasionally found percolating.

"The sand rather predominates in the bottoms and low spots, for the water which collects occasionally here and forms ponds remains perfectly sweet and transparent until dried up.

"The productions of the country are chiefly cotton and corn, and the natural growth beech, magnolia, pine, &c.

"The inhabitants of Woodville and the surrounding country have always enjoyed a great degree of health, seldom interrupted except by an occasional and partial prevalence of the usual autumnal fevers, to which our whole southern alluvial country is more or less subject.

"The past summer has been uncommonly hot: the thermometer being seldom below 80°, and frequently up to 100°. The whole month of June was rainy, but since, little or no rain has fallen, and the country is suffering from the want of water. The atmosphere, generally pure and dry, was so highly charged with electricity about the beginning of September, and the lightning at one time flashed so incessantly and vividly, as to create ominous apprehensions among many.

"The prevalence of the winds has been from N. N. West, and the nights have not been uncommonly cool."

This committee bear testimony to the disease being genuine yellow fever.

"Previous to the present year," we continue to quote from the report of the committee, "yellow fever never prevailed at Woodville. About 5 or 6 years ago, however, an individual, flying from the epidemic, which reigned at Bayou Sara, went to Woodville, where he soon fell sick and died with black vomit. Neither before nor since, until the present time, has the disease ever been heard of there."

The first case which occurred was "a negro man, who had been residing in the country a number of years, and who had been taken sick at his master's plantation, about 6 miles from town. The patient died. This death," observe the committee, "it will be borne in mind, happened on a plantation 6 miles from town, and it is worthy of note that no other case occurred here, with the exception of a slight fever about three weeks after, in another negro, who had never been near the first, and who soon recovered after a purgative of calomel, without quinine.

"The next case occurred in the town on the 11th August, in the person of Mr. Simrall. This gentleman was a Kentuckian by birth, and had been residing at Woodville about 3 years. His occupation was that of a merchant, and it is not remembered that he had recently received any merchandise from New Orleans, or been absent from the town since his removal there. He was attacked with the most unequivocal symptoms of yellow fever, which readily yielded to the free use of the lancet and calomel. After this he was put on the quinine treatment, which disagreed much with him, and rendered his convalescence tedious.

"After this case the disease began to spread as an epidemic, very generally."

We trust that a full account of this epidemic will be drawn up by one of the medical practitioners of the place.

Colon Strangulated by the Meso-Colon.—Dr. Gilman Davis, of Portland, Me., relates in the *Boston Medical and Surgical Journal*, (Dec. 11th, 1844,) an interesting case in which fatal strangulation of the colon in an aperture in the meso-colon occurred. The subject of the case was a gentleman, twenty-six years of age, who was attacked on the 13th Oct., 1843, with paroxysms of pain in the epigastric region, without tenderness; but with remarkable tonic rigidity of the abdominal muscles, and constipation. By the use of cathartics, enemata and opiates, after three days suffering, evacuations were produced from the bowels and the other symptoms then yielded.

The patient, except being troubled with constipation enjoyed moderate health after this until the 5th May, 1844, when he experienced an attack similar to the first. There was superadded to the previous symptoms, constant vomiting, every thing swallowed was instantly rejected. There was no thirst; the firmest pressure on the abdomen caused no pain; there was extreme restlessness and nervous agitation, and the patient complained that there was a stoppage in the epigastric region, and said he should feel better if he could only have an evacuation from his bowels. Various remedies were employed without, however, the least benefit; the patient got worse and worse, and died midday, May 9th.

On *post mortem* examination a large knuckle of intestine of a deep port wine colour, composed of thirteen inches of the colon, was found strangulated in an aperture about the size of a quarter of a dollar in the meso-colon. From the strangulated intestine to its termination in the anus, measured four feet. The strangulated intestine was in a complete state of mortification. The aperture was round with even edges. No reasonable conjecture could be formed as to the cause of its formation.

Discharge of a Lumbricus from the Male Urethra.—Dr. Peter F. Clark, has recorded in the *New York Journal of Medicine*, (May, 1844,) a case in which a lumbricus teres eleven inches long was discharged from the urethra of a man thirty-three years of age. Dr. C. thinks that eighteen months previously, at which time the patient laboured under symptoms of disease of the bladder, a communication was formed by ulceration between that organ and a contiguous surface of intestine, through which the worm had passed from the latter into the former organ.

The facts related by Mondiere (see p. 207 of this No.) suggest a more plausible explanation of this occurrence.

Dr. M'Dowell's Cases of Extirpation of Diseased Ovaria.—The operations of Dr. Ephraim M'Dowell, of Danville, Ky., for extirpation of diseased ovaria, having been so frequently quoted of late, and often incorrectly; and the journal in which they were originally published ("The Eclectic Repertory") being inaccessible to the profession generally, we have thought that we should do a service by republishing them.

Dr. M'Dowell's first paper, containing the account of his three first operations, was published in the Eclectic Repertory for April, 1817; and his second paper, containing an account of two subsequent operations, was published in the same journal for October, 1819.

Case I.—"In December, 1809, I was called to see a Mrs. Crawford, who had for several months thought herself pregnant. She was affected with pains similar to labour pains, from which she could find no relief. So strong was the presumption of her being in the last stage of pregnancy, that two physicians, who were consulted in her case, requested my aid in delivering her. The abdomen was considerably enlarged, and had the appearance of pregnancy, though the inclination of the tumour was to one side, admitting of an easy removal to the other. Upon examination, per vaginam, I found nothing in the uterus; which induced the conclusion that it must be an enlarged ovarium. Having never seen so large a substance extracted, nor heard of an attempt, or success attending any operation, such as this required, I gave to the unhappy woman information of her dangerous situation. She appeared willing to undergo an experiment, which I promised to perform if she would come to Danville, (the town where I live,) a distance of sixty miles from her place of residence. This appeared almost impracticable by any, even the most favourable conveyance, though she performed the journey in a few days on horseback. With the assistance of my nephew and colleague, James M'Dowell, M. D., I commenced the operation, which was concluded as follows: Having placed her on a table of the ordinary height, on her back, and removed all her dressing which might in any way impede the operation, I made an incision about three inches from the musculus rectus abdominis, on the left side, continuing the same nine inches in length, parallel with the fibres of the above-named muscle, extending into the cavity of the abdomen, the parietes of which were a good deal contused, which we ascribed to the resting of the tumour on the horn of the saddle during her journey. The tumour then appeared full in view, but was so large that we could not take it away entire. We put a strong ligature around the Fallopian tube near to the uterus; we then cut open the tumour, which was the ovarium and fimbrious part of the Fallopian tube very much enlarged. We took out fifteen pounds of a dirty, gelatinous looking substance. After which we cut through the Fallopian tube, and extracted the sack, which weighed seven pounds and one half. As soon as the external opening was made, the intestines rushed out upon the table; and so completely was the abdomen filled by the tumour, that they could not be replaced during the operation, which was terminated in about twenty-five minutes. We then turned her upon her left side, so as to permit the blood to escape; after which, we closed the external opening with the interrupted suture, leaving out, at the lower end of the incision, the ligature which surrounded the Fallopian tube. Between every two stitches we put a strip of adhesive plaster, which, by keeping the parts in contact, hastened the healing of the incision. We then applied the usual dressings, put her to bed, and prescribed a strict observance of the antiphlogistic regimen. In five days I visited her, and, much to my astonishment, found her engaged in making up her bed. I gave her particular caution for the future; and in 25 days, she returned home as she came, in good health, which she continues to enjoy."

Case II.—"I was called to a negro woman, who had a hard and very painful tumour in the abdomen. I gave her mercury for three or four months with some abatement of pain; but she was still unable to perform her usual duties. As the tumour was fixed and immovable, I did not advise an operation; though from the earnest solicitation of her master, and her own distressful condition, I agreed to the experiment. I had her placed upon a table, laid her side open as in the above case; put my hand in, found the ovarium very much enlarged, painful to the touch, and firmly adhering to the vesica urinaria and fundus uteri. To extract I thought would be instantly fatal; but by way of experiment I plunged the scalpal into the diseased part. Such gelatinous substance as in the above case, with a profusion of blood, rushed to the external opening, and I conveyed it off by placing my hand under the tumour, and suffering the discharge to take place over it. Notwithstanding my great care, a quart or more of blood escaped into the abdomen. After the hæmorrhage ceased, I took out, as clearly as possible, the blood, in which the bowels were completely enveloped. Though I considered the case as nearly hopeless, I advised the same dressings and the same regimen, as in the above case. She has entirely recovered from all pain, and pursues her ordinary occupation."

In his second paper, Dr. M'Dowell states, that he thought this patient well of her disease: "but she informed me a short time since, that it had been growing for the last 12 or 18 months, and says it is now about the size it was when I opened her six years ago."

Case III.—"In May, 1816, a negro woman was brought to me from a distance. I found the ovarium much enlarged, and, as it could be easily moved from side to side, I advised the extraction of it. As it adhered to the left side, I changed my place of opening to the linea alba. I began the incision, in company with my partner and colleague, Dr. William Coffer, an inch below the umbilicus, and extended it to within an inch of the os pubis. I then put a ligature around the Fallopian tube and endeavoured to turn out the tumour, but could not. I then cut to the right of the umbilicus, and above it two inches, turned out a scirrhous ovarium, (weighing six pounds,) and cut it off close to the ligature put round the Fallopian tube. I then closed the external opening, as in the former cases; and she complaining of cold and chilliness, I put her to bed prior to dressing her—then gave her a wineglassful of cherry-bounce and thirty drops of laudanum, which soon restoring her warmth, she was dressed as usual. She was well in two weeks, though the ligature could not be released for five weeks; at the end of which time the cord was taken away; and she now, without complaint, officiates in the laborious occupation of cook to a large family."

Case IV. "In April, 1817, I operated on a negro woman from Garard county; extracting a scirrhous ovarium, weighing five pounds. The incision was made near the linea alba; as in cases formerly related, I tied a cord firmly round the ligament, attaching it to the uterus, and cut away the ovarium; but owing to the shortness and sponginess of the part, the cord slipped off before I laid the ovarium out of my hands, and a profuse discharge of blood took place. I immediately drew the uterus to the external incision, and commenced tying up the bleeding mouths separately. This also, in consequence of the diseased state of the parts, proved only of partial efficacy, as several of the ligatures cut through on tying them. I now thought it all over with my poor patient, but arming a needle with a strong ligature, I passed it round the ligament; securing it in its place by taking several stitches over its surface as I passed it round, and firmly tied it. By turning her nearly on her stomach I was able to get most of the blood out of the abdomen, using my hand to extract the coagulated portion. The incision was then closed by the interrupted suture, and strips of adhesive plaster. She recovered happily; but I am told her health is not good; the account I had of her was awkwardly given; from what I could learn her complaint is hysterical. This, though the smallest ovarium I have ever extracted, was much more troublesome to the patient than in any previous case. Besides experiencing severe lancinating pains in the parts, she was seldom able to discharge her urine, without getting almost on her head, in consequence of the tumour falling down into the pelvis, and compressing the urethra."

Case V. "A negro woman, from Lincoln county, was brought to me in April, 1818, supposed, by the different physicians who had attended her, to be affected with ascites; she had been under their care about eighteen months. On examining her I could very plainly discover the fluctuation of fluid in the abdomen, and for some months administered medicines for ascites without effect; despairing of the power of medicines, I at length tapped her, and discharged thirteen quarts of gelatinous fluid, such as I had before met with in dropsical ovaria, of so thick a consistence that I found it extremely difficult and tedious to discharge it. In two months after I found it necessary to tap again; during the process of discharging it a second time, the opening was frequently stopped by viscid portions of the jelly, which were broken by introducing a probe; when the abdomen was pretty well evacuated, I discovered, with the probe, a firm substance, which, on minute examination, I found to be of considerable size. I at once supposed the existence of a dropsical ovarium, in which I was confirmed on finding the uterus empty by examination per vaginam. Some months after she was again tapped, at which time I made the opening large enough to admit my finger; by which means I was able to ascertain the nature of the disease beyond a doubt. I informed her master what was certainly her situation, and that nothing but excision could effect a cure. My advice was not immediately followed, nor until after she was tapped a fourth time; a week or two after which she was brought to Danville to undergo the operation, which was performed May 11, 1819. The diseased ovarium being on the left side, and evidently dropsical, the incision was of course made on the left side. On exposing the tumour, it was found to adhere to the parietes of the abdomen, and to the intestines, by slender cords which were easily separated with the hand, and which caused a slight effusion of blood. To the uterus two strong ligaments adhered; one, the natural ligament, attaching the ovarium to the uterus, the other, an artificial one, attached to the fundus uteri, which appeared to be composed of the above-mentioned slender cords, compacted together. I then tied fine cords of silk firmly round each of these ligaments, discharged the contents of the tumour, and cut it away.

"There were sixteen quarts of gelatinous fluid discharged from the tumour and abdomen. The dressings and precautions were the same as in other cases. The second day after the operation she was affected with violent pain in the abdomen, together with an obstinate vomiting. She was blooded as copiously as her strength would allow, but without producing any abatement of the pain or vomiting. On the third day she died. On examination after death, the uterus, contrary to expectation, appeared natural and uninflamed, the right ovarium healthy, the silken cords were securely and properly fixed, and not in a situation likely to injure the adjoining parts. Her death had proceeded from peritoneal inflammation. This membrane, throughout its whole extent, appeared greatly inflamed, and the intestines largely inflated.

"I was assisted in this operation by my nephew, Dr. William A. M'Dowell. Doctors Weizegar, Tomlinson, and Horr were present.

"On examining the substances we had removed the contents of the sac presented a variety; different portions of the fluid were of different colours—semi-transparent, white, brown and yellow. There was also contained in the sac a considerable quantity of hair, which grew from the inner surface. Enveloped in the inner substances of the sac we found a bone, resembling very much in shape the front tooth of a cow.

"From the circumstance of the hair and bone one or two of the physicians present were inclined to believe the disease originated from an extra uterine conception, and that all of the fœtus had been absorbed, save the hair and single bone which was found. This question I submit to the faculty."

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New Works.—Messrs. Lea & Blanchard have just published Sir Astley Cooper's treatises on the structure and diseases of the Testis, and on the structure and diseases of the Thymus Gland; Taylor's Medical Jurisprudence, with notes and additions by Dr. R. E. Griffith; and a treatise on the Diseases of the Respiratory Organs, by C. J. B. Williams, with notes and additions by Dr. Clymer.

The same publishing house have in press, and will shortly publish, Esquirol on Mental Maladies, translated with additions by Dr. E. K. Hunt; Ashwell on the Diseases of Females, with notes by Dr. Goddard; Miller's Principles of Surgery; and Brigham on the influence of mental cultivation and mental excitement upon health.

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Obituary Record.—It is with deep regret that we record the death of Dr. Samuel Forry, which took place in the city of New York on the 9th of November last.

Dr. Forry was well known to the readers of this Journal by his his numerous valuable contributions. For the last two years he edited with ability and success the New York Journal of Medicine, besides furnishing many articles to other periodicals; and during the same period he prepared several interesting and useful volumes.

Dr. Forry's constitution, naturally feeble, broke down under his arduous literary labours. He was attacked with a cerebral affection, which closed his career at the early age of 33.

THE

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MEDICAL SCIENCES.

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TO READERS AND CORRESPONDENTS.

Communications have been received from Dr. Little of Florida, Dr. Spooner of New Bedford, Dr. Blackman of Newburgh, and Dr. Sutton of Kentucky.

Correspondents who desire their papers to appear as *original* articles in this Journal, should send them to us *exclusively*. On a former occasion, we expressed our opinion respecting the conduct of those who send their communications as original, simultaneously to several journals.

Circumstances beyond our control have prevented our noticing several works which ought to have received attention; among others, the very valuable work of Dr. Bartlett on the Philosophy of Medical Science.

The following works have been received:—

Remarks on the Influence of Mental Cultivation and Mental Excitement upon Health. By Amariah Brigham, M. D., Superintendent and Physician of the State Lunatic Asylum, Utica, New York. Third edition. Philadelphia: Lea & Blanchard, 1845. (From the publishers.)

The Sanitary condition of the Labouring Population of New York, with suggestions for its improvement. A Discourse (with additions), delivered on the 30th Dec., 1844, at the Repository of the American Institute. By John H. Griscom, M. D., Fellow of the College of Physicians and Surgeons, Physician to the New York Hospital, &c., &c. New York, 1845. (From the author.)

The Principles of Surgery. By James Miller, F. R. S. E.; F. R. C. S. E., Prof. of Surgery in the University of Edinburgh, &c., &c. Philadelphia: Lea & Blanchard, 1845. (From the publishers.)

A Treatise on the Diseases and special Hygiène of Females. By Colombat de L'Isere. Translated from the French, with additions, by Charles D. Meigs, M. D., Professor of Midwifery, and the Diseases of Children, in Jefferson Medical College, Philadelphia, &c., &c., &c. With wood illustrations. Philadelphia, Lea & Blanchard, 1845. (From the translator.)

New Elements of Operative Surgery. By Alfred A. L. M. Velpeau, Professor of Surgical Clinique of the Faculty of Medicine of Paris, &c., &c., &c. Carefully revised, entirely remodeled, and augmented with a Treatise on Minor Surgery. Illustrated by over 300 engravings incorporated with the text: accompanied with an Atlas in quarto of twenty-two plates, representing the principal operative processes, surgical instruments, &c. First American, from the last Paris edition. Translated by P. S. Townsend, M. D., late Physician to the Seamen's Retreat, Staten Island. Augmented by the addition of several hundred pages of entirely new matter, comprising all the latest improvements and discoveries in Surgery, in America and Europe, up to the present time. Under the supervision of, and with notes and observations, by Valentine Mott, M. D., Professor of the Operations of Surgery with Surgical and Pathological Anatomy, in the University of New York, &c., &c., &c. In three vols., Vol. I. New York, Henry G. Langley, 1845. (From the publishers.)

The First Lines of the Theory and Practice of Surgery; including the Principal Operations. By Samuel Cooper, Senior Surgeon to University Hospital, and Professor of Surgery in the same College, &c. With notes and additions, by Willard Parker, M. D., Professor of Surgery in the College of Physicians and Surgeons in the University of the State of New York. Fourth American, from the seventh London edition. New York: S. S. & W. Wood, 1844; 2 vols. 8vo. (From the publishers.)

American Medical Biography: or Memoirs of eminent Physicians, embracing principally those who have died since the publication of Dr. Thacher's work on the same subject. With engravings. By Stephen W. Williams, M. D., late Professor and Lecturer upon Materia Medica, Medical Jurisprudence, &c., in the Medical Colleges of Berkshire, &c., &c. Greenfield, Mass., 1845. (From the author.)

Medical Topography, or Brazil and Uruguay: with Incidental Remarks. By G. R. B. Horner, Surgeon U. S. N., &c., &c. Philadelphia: Lindsay & Blakiston, 1845. (From the author.)

The Navy. Hints on the Re-organization of the Navy, including an examination of the claims of its civil officers to an equality of rights. New York: Wiley & Putnam, 1845.

Medical Lexicon or Modern Terminology; being a complete vocabulary of definitions, including all the technical terms employed by writers and teachers of Medical Science at the present day; and comprising several hundreds of words not found in any other dictionary. Designed for the use of Students and Practitioners. By David Meredith Reese, A. M., M. D., of New York, &c., &c. New York: H. G. Langley, 1845. (From the publishers.)

A Dictionary of Practical Medicine; comprising General Pathology, the Nature and Treatment of Diseases, Morbid Structures, &c. By James Copland, M. D., F. R. S. Edited with additions, by Charles A. Lee, M. D. New York: Harper & Brothers, 1845. Parts II, III & IV. (From the publishers.)

Principles of Forensic Medicine. By William A. Guy, M. D., Cantab., &c., &c. First American edition. With notes and additions, by Charles A. Lee, M. D., Professor of Materia Medica and General Pathology, in Geneva College, &c. New York: Harper & Brothers, 1845. (From the publishers.)

An Introductory Lecture on the Means of promoting the Intellectual Improvement of the Students and Physicians of the Valley of the Mississippi. Delivered in the Medical Institute of Louisville, Nov. 4th, 1844. By Daniel Drake, M. D., Professor of Pathology and Practical Medicine. Published by the class, Louisville, 1844. (From the author.)

Lecture introductory to a course on the Institutes of Medicine in the University of Pennsylvania. Delivered Nov. 5, 1844. By Samuel Jackson, M. D. Philadelphia, 1844. (From the author.)

Twenty-fourth Annual Report of the Bloomingdale Asylum for the Insane, for the year 1844. New York, 1845. (From Dr. P. Earle.)

Report of the Pennsylvania Hospital for the Insane, for the year 1844. (From Dr. Kirkbride.)

Annual Report of the Managers of the State Lunatic Asylum. Made to the Legislature [of New York] Jan. 31, 1845. Albany, 1845. (From Dr. Brigham.)

Report of the Inspectors of the Western Penitentiary of Pennsylvania, for the year 1844, with the accompanying documents. Pittsburgh, 1845. (From the Physician, Dr. J. H. Smith.)

Third Annual Report to the Legislature, relating to the registry and returns of Births, Marriages and Deaths in Massachusetts. For the year ending May 1, 1844. By John E. Palfrey, Secretary of the Commonwealth. Boston, 1845. (From Dr. E. Jarvis.)

Twelfth Annual Report of the Trustees of the State Lunatic Hospital at Worcester, Dec., 1844. (From Dr. Jarvis.)

General Report of the Royal Hospitals of Bridewell and Bethlem, and of the House of Occupations, for the year ending Dec. 31, 1844. London, 1845. (From Dr. John Webster.)

A Treatise upon the Diseases and Hygiene of the organs of the Voice. By Colombat de L'Isère. Translated by J. F. W. Lane, M. D. Boston: Otis Broaders & Co., 1845. (From the publishers.)

Vital Chemistry—Lectures on Animal Heat. By Thomas Spencer, M. D., Professor of Institutes and Practice of Medicine in the Medical Institution of Geneva College. Published by request of the class. Geneva, 1845. (From the author.)

Annual Oration delivered before the Philadelphia Medical Society, by appointment, at the opening of its session of 1844–5. By D. Francis Condie, M. D., Honorary Member of the Society. Published by order of the Society. Philadelphia, 1845. (From the author.)

Annual Reports made to the General Assembly of Rhode Island, at their October Session, 1844, by the Inspectors, Warden and Physician of the Rhode Island State Prison. Providence, 1844.

The Reciprocal duties and obligations of the Medical Profession and the Public: a Public Introductory Lecture delivered at the Rush Medical College at the commencement of the session, 1844–45. By Austin Fluit, M. D., Prof. of Institutes and Practice of Medicine. Chicago, 1844. (From the author.)

Sixth Annual Report of the Directors and Superintendent of the Ohio Lunatic Asylum. Columbus, 1844. (From Dr. Awl.)

A Lecture on the Physiology of Digestion, introductory to a course of Lectures on the Institutes of Medicine and Materia Medica. Delivered before the Medical Class of the University of the city of New York, at the Session of 1844–5. By Martin Paine, A. M., M. D., &c., &c., &c. Fourth edition. New York, 1844–5. (From the author.)

The Edinburgh Medical and Surgical Journal: Jan., 1845. (In exchange.)

The Medico-Chirurgical Review: Jan., 1845. (In exchange.)

The British and Foreign Medical Review: Jan., 1845. (In exchange.)

The London Medical Gazette: Dec., 1844; Jan., Feb., 1845. (In exchange.)

The Dublin Medical Press: Dec., 1844; Jan., Feb., 1845. (In exchange.)

The Provincial Medical and Surgical Journal: Dec., 1844; Jan., Feb., 1845. (In exchange.)

The Medical Times: Dec., 1844; Jan., Feb., 1845. (In exchange.)

The London and Edinburgh Monthly Journal of Medical Science: Dec., 1844; Jan. and Feb., 1845. (In exchange.)

The Northern Journal of Medicine; a monthly survey of the progress of medical knowledge at home and abroad. Edited by William Seller, M. D.,

&c., &c., and T. Lindley Kemp, M. D., &c., &c.: May, June, July, Aug., Sept., Oct., Nov., Dec., 1844; Jan., Feb., 1845. (In exchange.)

Journal de Chirurgie. Par M. Malgaigne. Jan., Feb., 1845. (In exchange.)

Journal de Médecine. Par M. Beare. Jan., Feb., 1845. (In exchange.)

The Boston Medical and Surgical Journal: Jan., Feb., March, 1845. (In exchange.)

The American Journal of Insanity, edited by the Officers of the New York State Lunatic Asylum. Utica, Jan., 1845. (In exchange.)

The American Journal of Science and the Arts: Jan., 1845. (In exchange.)

The St. Louis Medical and Surgical Journal: Jan., Feb., 1845. (In exchange.)

The Western Journal of Medicine and Surgery: Jan., Feb., March, 1845. (In exchange.)

The Western Lancet: Jan. and Feb., 1845. (In exchange.)

The American Journal and Library of Dental Science, Dec., 1844. (In exchange.)

The Southern Medical and Surgical Journal: Jan., Feb., March, 1845. (In exchange.)

The Illinois Medical and Surgical Journal: Dec., 1844; Jan., Feb., 1845. (In exchange.)

The New York Journal of Medicine and the Collateral Sciences: Jan., 1845. (In exchange.)

The Medical Examiner and Record of Medical Science, N. S.: Jan., Feb., March, 1845. (In exchange.)

The Bulletin of Medical Science: Jan., Feb., March, 1844. (In exchange.)

The New Orleans Medical Journal: Jan., March, 1845. (In exchange.)

The Select Medical Library; Oct., 1845. (In exchange.)

Tne American Journal of Pharmacy, Jan., 1845. (In exchange.)

The Select Medical Library. Christison on Poisons (in part). (In exchange.)

Communications intended for publication, and Books for Review, should be sent, *free of expense,* directed to Isaac Hays, M. D., Editor of the Amer. Journ. of Med. Sci., care of Messrs. Lea & Blanchard, Philadelphia. Parcels directed as above, and sent, (carriage paid) under cover, to John Miller, Henrietta Street, Covent Garden, *London;* or to Wiley & Putnam, *New York;* or W. D. Ticknor, *Boston;* or M. Hector Bossange, Lib. quai Voltaire, No. 11, *Paris,* will reach us safely. We particularly request the attention of our foreign correspondents to the above, as we are often subjected to unnecessary expense for postage and carriage.

All remittances of money, and letters on the *business* of the Journal, should be addressed *exclusively* to the publishers, Messrs. Lea & Blanchard.

☞ The advertisement-sheet belongs to the business department of the Journal, and all communications for it should be made to the publishers, under whose exclusive control it is.

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well, M. D., &c., &c. First complete American, from the last London edition, with notes by Paul B. Goddard, M. D., &c., 8vo.: pp. 520. Lea & Blanchard, Philadelphia, 1845. - - - - - - 359

XI. Human Health; or the influence of Atmosphere and Locality; change of air and climate; seasons; food; clothing; bathing and mineral springs; exercise; sleep; corporeal and intellectual pursuits, &c., &c., on healthy man; constituting Elements of Hygiène. By Robley Dunglison, M. D., &c., &c. A new edition, with many modifications and additions. Philadelphia, Lea & Blanchard: pp. 464, 8vo. - - - - - 379

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THE

AMERICAN JOURNAL

OF THE

MEDICAL SCIENCES

FOR APRIL, 1845.

ART. I.—*On the Pathology of Yellow Fever.* By JOSIAH C. NOTT, M.D., of Mobile, Ala.

RATIONAL practice can only be based on sound Pathology, and my object here is to give *facts* derived from bed-side and *post mortem* observations.

A very fatal epidemic of yellow fever prevailed in Gibraltar in 1828, from the middle of August until the 25th of December, a period of about four months and a half. The French government, desirous of collecting precise information respecting this disease, appointed a commission composed of MM. Louis, Trousseau, and Chervin, all gentlemen of the highest professional standing, for this important object. They proceeded to Gibraltar, where they arrived on the 23d of November, *only* 33 *days before the termination of the epidemic.*

The commission performed its duty ably and faithfully, and with the assistance of the eminent English and Spanish physicians, then in Gibraltar, viz.: Mr. Gillkrest, Fraser, Mery, Dias and others, collected a mass of most valuable and interesting facts.

It is a well-known law of epidemics, that they differ not only in their symptoms, but in their pathological characters in different years and places, and M. Louis, who has published a masterly analysis of the facts collected at Gibraltar, says: "I would beg the reader to remember that this work is not a *treatise* on yellow fever, but a history of the epidemic yellow fever which prevailed in Gibraltar, in 1828. *All* the general facts which result from my analysis *may not be found in other epidemics.*"

Now, although this work is put forth as the history of a small portion of one epidemic, many (overlooking the various grades and shapes which the same disease will assume at different epochs) have strangely received the facts and deductions of M. Louis as fixed and invariable laws.

M. Louis has analyzed his limited and imperfect facts with all that ability and honesty of purpose which so eminently characterize him; but any one who has had much experience with this disease and studied its phenomena, will see at a glance that his facts were too limited, his premises often false, and his deductions consequently erroneous—but still the work is full of instruction and of incalculable value as a model for similar investigations.

I have witnessed five epidemics of yellow fever in Mobile, viz., in 1837—'39,—'42—'43 and '44, each of which has presented some predominant peculiarity of type, and all demanded some modification of treatment. My medical friends and myself have made autopsies each year, but I have preserved detailed notes of the last two only—the dissections of the previous years, however, lead to the same general conclusions.

Excluding all doubtful cases, I have 16 autopsies remaining, and it so happens that they are equally divided between the two years 1843 and 1844. The dissections were made by Drs. Ross, Crawford, Gale, Lewis and myself. I assisted in all except two or three. The patients presented the usual train of symptoms during their illness—the skin was yellow in every case, and both stomach and bowels contained the characteristic black matter in all.

It will be remembered that M. Louis' conclusions are based on the dissections of 23 cases, all of the same epidemic. A peculiar change in the liver was the only constant lesion in his cases, and this he considers as *essential* to the disease, and a *diagnostic* sign. But there being no change in the liver beyond that of *colour*, which he regards as insufficient to account for the death of the patients, and all other lesions, gastritis, &c., being often wanting, he says we must look to the *cause* of the disease and not to appreciable pathological changes to explain the result. In other words, death results from the introduction into the system of a subtle *poison*, whose mode of action is unknown to us.

The facts which I am about to present, prove conclusively that this peculiar lesion of the liver is not more constant *in the yellow fever of Mobile*, than other lesions, and it is worthy of notice that there is a marked difference in the frequency of this lesion in different epidemics here.

M. Louis describes the liver as being in an anæmic condition, pale, dry and friable—the colour of straw, fresh butter, sole leather, *cafè au lait* or mustard, and in no instance as dark or darker than natural. I will now proceed to give my own observations.

Liver.—Of 8 cases dissected during the epidemic of 1843, in Mobile, the livers in 2 only corresponded with the description of M. Louis—they were pale, and when torn resembled very closely ginger bread or new leather; and the 6 others were of a dark blue or dark chocolate, presenting different shades of colour, and instead of being dry, they were excessively engorged with blood; the latter cases correspond with the description given by Dr. Hulse, of the cases dissected in the Marine Hospital at Pensacola in 1841.

Of the 8 dissections in 1844, the livers in 4 corresponded with the description of Louis; 2 were of a dark olive, and 2 were perfectly natural.

Taking the whole 16 livers collectively, 6 were some shade of yellow, dry and friable; 2 olive; 2 normal, and 6 darker than natural and much engorged. There can be no error in these facts, for Louis' liver was our standard for comparison in every case.

M. Louis has, I believe, never lived in a bilious or yellow fever region, and has fallen into another error in supposing this liver to be peculiar to yellow fever—I have repeatedly seen facts to the contrary, and two of them have occurred this summer (1844)—one a man by the name of Sandy White, who was walking about during the day, and died at night with violent pains in the bowels; poison was suspected, and the body was opened by several physicians. The other was a Frenchman, who was brought from three miles in the country into the city hospital, dying with protracted bilious fever.

In both these cases the straw-coloured liver was found, without any trace of black matter in the stomach or bowels, or other mark of yellow fever; the Frenchman had a yellow skin, but this is common in other fevers.

Setting aside then the liver, the leading facts and conclusions of M. Louis are strongly corroborated by my observations.*

Gall Bladder.—This was found in all the sixteen cases, except one, to contain bile, varying in quantity from ℥ss to ℥iv; colour from pale green to olive, and even black; consistence from water to tar—in one case the cyst contained about ℥iv of colourless fluid, resembling gum water or mucus.

The secretion of bile in this disease is almost invariably suppressed early; in severe cases it is rarely vomited after the second day, and I believe I have never seen it after the third day when they were fatal, except in one or two very protracted cases.

Stomach.—Of the eight cases in 1843, this organ in four presented no appreciable morbid change; the mucus coats throughout were free from injection or extravasation of blood, smooth and of normal thickness; consistence good, giving strips from four to twelve lines. In the other four cases the mucous coats were more or less red, thickened, mammilated and softened.

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* Since writing the above, I have received from France a Report made to the Academy by M. Chervin, on a memoir of M. Rufz on yellow fever, and I am gratified to see that my observations on the liver are here confirmed. M. Chervin states that he has made five hundred autopsies after death from yellow fever, in the West Indies, Europe and America, and draws the following conclusions:—

"1st. That the lesion pointed out by M. Louis as constant in yellow fever, is often wanting, and that it is not rare to meet the liver in its normal condition in this disease.

"2d. That this organ shows not unfrequently a yellow colour in the remittent and intermittent fevers of hot climates, and that consequently the anatomical lesion, cited by M. Louis, is not *characteristic* of yellow fever, and that therefore the deductions which this physician has drawn from it fall of themselves."

M. Chervin also shows that M. Rufz' dissections do not bear out M. Louis, although they have been quoted with this view.

Of the eight cases in 1844, the mucous coat of the stomach in three were perfectly healthy, and five presented, as the above, various morbid appearances; but in no case was the mucous coat ulcerated or reduced to a pulpy consistence. All the stomachs contained black vomit.

Louis found the stomach normal in five out of twenty-three cases; in a portion of the others the morbid changes slight, and taking the whole together, the lesions in the stomach were not greater than are found in deaths from other acute diseases in Paris. I would make the same remark of yellow fever in Mobile.

Intestines.—My professional engagements would not permit me to examine every inch of the intestinal canal with the minuteness of MM. Louis and Trousseau, nor have I deemed it so important, as the great points of doubt and dispute are the *liver* and *stomach*, which were faithfully examined; the facts, however, as far as they go, may be relied on.

In every case the small intestine contained matter resembling the black vomit very closely, but usually more pasty and tenacious. With the exception of two or three cases, the large intestine contained it also; here it was frequently dryer, resembling sometimes pickled walnuts pounded, and sometimes in black scybala—in some cases the black pasty matter was found plastered over the whole surface of the small and large intestines, but the black matter is more constant the nearer you approach the stomach.

In one case the whole canal, large and small, was coated with a thick, tenacious matter, of a dark purple colour, like blackberry jam—a compound evidently intermediate between blood and black vomit—this I shall show hereafter was blood in the *transition state*, gradually turning black from the action of acid in the secretions of the intestines.

M. Louis saw black matter in the large intestine when it did not exist in the small intestine or stomach, but I have never met with a similar instance.

I have repeatedly seen patients (which I had no opportunity of examining after death) vomit or purge large quantities of fluid blood, and in some of the cases the black vomit was distinctly mingled with it, as in the case of Mr. Covert, whom I saw with Dr. Mordecai.

Though seen in some cases, traces of inflammation were less frequent and decided in the intestines than in the stomach; the small intestine rarely showed softening or thickening of its mucous coat; softening in the large intestine was very common, but being most frequently unaccompanied by thickening or redness, it could not be regarded as the result of inflammation. The morbid appearances met in the intestines are so common in other acute diseases, that much importance cannot be attached to them.

Bladder.—The bladder, in every case, contained urine, from a few ounces to two pints. In three cases the urine was bloody, in two it contained black matter like the black vomit—in the others the urine was healthy or varied slightly from it—mucous coat generally normal, but in some cases highly injected.

The heart in some cases was found softened and flabby. The brain, kidneys, spleen, lungs and other organs, presented no lesions sufficiently constant to give them importance. Rigidity of the muscles always took place after death.

Blood.—This was found dark and fluid in every case when the bodies were opened; minute observations were not made in all the cases, but in about one half, the blood was collected by thrusting a trocar into the right auricle and drawing it off into clean quinine bottles; it was so fluid, and was accumulated in such quantity in the auricle and veins connected with it, that 10 or 12 hours after death it would run freely through the canula to the amount of a pint or more. When set aside it coagulated at intervals, varying from 15 or 20 minutes to 36 hours; the clots were soft, grumous, easily broken down, showing a great deficiency of fibrin, and corresponding with Andral's description of the blood in the other pyrexiæ. In one case it did not coagulate at all, but presented a true state of dissolution.

In one case only the blood coagulated promptly and firmly like inflammatory blood; this was in a patient who lingered eleven days, and who for three days previous to the last two, I thought would recover. We found in him well marked inflammation of the peritoneal coat of the large intestine, and also of the interior of the pericardium where were deposited coagulable lymph and bloody serum. These appearances of fibrinous blood, according to Andral and Gavarret, may be accounted for by the supervention of this acute inflammation, as I shall point out farther on.

Black Vomit.—There have been many speculations on the nature and formation of this fluid, all of which are unsatisfactory; they are well known to the profession, and I shall here merely state my own opinions and the facts on which they are based.

It cannot, I think, be a secretion, because it is most commonly seen in little particles or masses of various magnitude which could not pass through a secreting capillary, and my own opinion is that the black vomit is *blood*, exhaled in its natural state from the capillaries of the stomach, intestines and even the bladder, and changed black by the secretions with which it comes in contact; this chemical change, my facts go to show, is produced by one or more acids.

With the assistance of my friend, Dr. P. H. Lewis, I have tested the black vomit in a considerable number of cases this summer, (1844) and in every instance I have found it to be acid; when ejected from the stomach during life, it invariably turned litmus paper red, and the aqueous portion of that which was taken from the stomach after death and filtered, in several cases effervesced strongly with carbonates. The aqueous portion thus filtered, differed in colour; in some it was perfectly limpid like water; in one of a light green colour like dilute bile with an acid added, and in others, it was of a deep brandy or rum colour; which appearance was no doubt given by a small admixture of blood.

The secretions of the stomach in yellow fever, are often excessively irritating, and this property is probably attributable to the presence of acid; the patient often complains in the black vomit stage of a burning or scalding sensation in the stomach which is immediately relieved by throwing off its contents. The patient, too, often complains of the black vomit scalding the œsophagus, which, after death, is usually found more or less denuded of its epithelium. The acridity of this secretion may possibly account for many of the morbid changes in the stomach and œsophagus. A morbid secretion of tears will scald the cheek; mucus from the nose, inflame the lip; morbid secretions from the bowels excoriate the *anus;* morbid bile irritates the stomach and bowels, &c.,—and we know that the gastric juice will often corrode the stomach in a short time after the extinction of life.

The next step was to ascertain whether acids would with blood produce a compound with the characters of black vomit. I accordingly took a few drachms of blood from the heart of a patient dead of yellow fever, and added to it 4 or 5 drops of muriatic acid, diluted with a drachm or two of water, and shook them well together; the black colour was produced instantly. The same experiment was tried repeatedly on the blood of yellow fever patients, and on that drawn from a patient with pleurisy by cups, and the effect was invariably the same.

Any one wishing to form a correct idea of black vomit, has only to treat blood in this way, and add a little gum water or flax seed tea to represent the mucus of the stomach, and his curiosity will be gratified; no one can tell the artificial from the genuine black vomit.

Sometimes the blood, after passing through the exhalents minutely divided, is coagulated in little particles, which, when blackened, present the appearance of coffee grounds; this appearance is difficult to imitate in the artificial black vomit, because we cannot readily produce these small coagula. I presume other acids will produce the same effect as the muriatic and crystallized acetic [citric ?], the only acids which I experimented with.

We have then established two important links in the chain; the black vomit in the yellow fever of 1844 was acid, and acids turn the blood black.

Whenever, in yellow fever, blood is exhaled from the mucous coat of the stomach or bowels in small quantity, a *quantity proportionate to the secretions of these surfaces, it is (according to my observations) invariably found black, and the aqueous portion limpid or clear green.* If there be a slight excess of blood (more than enough to neutralize the acid) instead of black, we find a nut brown, a chocolate or reddish matter, and the watery portion, when filtered, of a rum, brandy or red colour. If the hemorrhage be great, we have (as I have often seen vomited) a fluid with all the characters of blood, either with or without a mixture of black vomit. I have often seen a tablespoonful or two of the "coffee grounds" at the bottom of the basin with a pint or more of pure blood; this I have several times pointed out to others. In the case of Mr. Covert, whom I saw with Dr. Mordecai, I had presented to me at one time three basins, each containing a full pint of blood with the black vomit intermixed and lying at the bottom.

As an additional proof that the black vomit is blood, changed by the secretions of the stomach and bowels, I will state that I have never seen red blood, in yellow fever, tangled with mucus; when thus mixed it is always black.

This exhalation of blood and chemical change is by no means peculiar to the stomach, but evidently takes place over the whole mucous surface of the canal. I could cite many facts to prove this, and abundant evidence will be found in the work of M. Louis.

I have frequently seen black matter, like black vomit, in the urine, and it is formed no doubt in the same way, by blood combined with an acid in the urine, or in the mucus of the bladder. Dr. Lewis and myself are at this moment attending a medical gentleman (Dr. Fletcher) in whom this formation has been going on for some days, and at the same time the patient is throwing up black vomit and purging pure blood from the bowels.

There are many facts connected with other diseases, and analogies which would throw light upon this interesting subject, but I must touch them lightly for want of space.

Blood which is vomited or purged in other diseases, after being retained in the alimentary canal (in contact with the secretions) is usually very dark and not unfrequently black. In hæmoptysis the blood, on the contrary, is usually *florid*, and we are told by many that in the one case the blood is venous, and in the other arterial; but the blood in the two cases is doubtless exhaled from the same set of vessels, and the difference can only be accounted for by the chemical action of the gastro-intestinal secretions.

We know that in the vomiting of pregnancy, little specks or streaks of blood are frequently thrown up, and when females in this condition are attacked with fever of any kind, accompanied with excessive and protracted vomiting, small specks or streaks of black matter, like broken-up butterfly wings, are frequently seen. This kind of vomit is the usual precursor of genuine black vomit, and has the same explanation. Every experienced physician must have seen this, and my friend Dr. Crawford yesterday related to me a very interesting case of this kind attended by himself and Dr. Mordecai; the patient (the wife of a distinguished lawyer) during the month of December last, ill of a protracted fever, possessing no other symptom of yellow fever, and at a time and place where this disease was not prevailing, threw up black matter profusely, which could not be distinguished from the black vomit of yellow fever. We all know how abundant is the formation of acid in delicate females when pregnant.

A very small quantity of blood oozing gradually in a minutely divided form, and mingling slowly with the secretions of the mucous membrane of the stomach and bowels, will make a large quantity of black vomit. Judging from my experiments, I should think a tablespoonful would make a pint.

A moderate quantity of bile may exist in the black vomit without being perceived; this I proved by adding bile to the artificial black vomit, and by filtering the genuine black vomit, the aqueous part of which in one case was green, and this colour, I presume, was attributable to a small admixture of bile. Authors have gone into laboured descriptions of the *varieties* of black vomit, but my belief is, and the preceding facts go to prove that they are essentially the same, blood,—acids, mucus and aqueous fluid, mixed in various proportions. Give me blood, muriatic (or, I presume, any other acid) and gum water, and I will make it to suit the notions of the most fastidious pathologist: perfectly black, brown, reddish, &c.

We have thus passed in review the principal pathological changes seen in yellow fever, and we have found no one which is constant, no tangible cause of death. There has been a morbific cause at work; but we may ask with Louis, through the medium of what system does it exert its influence on the economy? Is it through the nervous system—is it through the blood?

Much ingenuity and labour have been spent in seeking a local habitation for this and other fevers, but all to no purpose. The well-informed and leading pathologists of the present day, Andral, Chomel, Louis, Alison, Tweedie, Watson, and, in fact, almost all except a remnant of the Broussais school, have abandoned this idea, and now regard the pyrexiæ and phlegmasiæ as distinct classes of disease.

The late work of M. Andral on the blood must be esteemed one of the most valuable pathological contributions of the day, and leads the way to important results. The old humoral pathology, though cumbered with much fanciful speculation and false assertion, contained such obvious truths as to have numbered amongst its advocates most of the great names which have graced the history of medicine from Hippocrates to the present day. *Facts* were noted which could not be explained, because organic chemistry had not reached a sufficient degree of accuracy for this kind of analysis. But chemistry is now marching up, and demonstrating to be true what before was mere probability. Besides Andral and Gavarret, many other of the French as well as German pathologists have, by actual experiments and analyses of the blood, already brought to light truths of the greatest interest and practical importance—some of these I will notice briefly.

M. Andral, in his recent work alluded to, uses the following bold and striking language.

"The pyrexiæ form a large class of acute diseases which it has been vainly sought to dismiss from nosological systems, in order to throw them into the order of simple inflammations. Such pretensions, however, cannot be maintained: the pyrexiæ exist as diseases apart. The causes which often develope them, the symptoms which characterize them, the *special nature* of the alterations that they produce in the solids, the epoch of development of these alterations (often posterior to that of the febrile movement) are sufficient reasons for not confounding the pyrexiæ and the phlegmasiæ; but the *analysis of the blood* comes still more strongly to establish a very remarkable difference between the two classes. The results furnished by this analysis have something so marked, that they seem to me to fix in a definite manner, the distinction vainly combated, between the pyrexiæ and the phlegmasiæ."

Now what the morbific cause *is*, what its *modus operandi*, what the nature of all the morbid changes in the system, we cannot now, and probably never shall be able to discover; but although we may not be able to tell what the essential nature of yellow fever is, it is not the less important to prove what it *is not*—we may thus strike out a fatal error, as the treatment depends so much upon the pathology.

The following are the normal proportions of the blood in health, as laid down by Andral after a very extended analysis—1000 parts contain 3 of fibrin, 127 of globules, 80 of solid matter of the serum, and 790 of water. These ingredients bear a certain relative proportion to each other, which alone are compatible with health; each one may fluctuate between certain limits without indicating disease, but whenever these fixed bounds are passed, *disease is invariably present.*

The average of fibrin, as stated, is 3 in healthy human blood, and may range from 2.5 to 3.5 in health—there are extreme cases where it has been seen as low as 2 or as high as 4.

The average of globules in healthy blood is 127, the minimum 110, the maximum 140; but this maximum is linked with plethora, which becomes a true morbid state.

The solid materials of the serum, which are composed almost exclusively of albumen, have 80 for their mean, which has also its maximum and minimum. There are also smaller quantities of the salts of soda, potash, lime, magnesia, iron, colouring matter of the bile, &c.

The proportions of all these ingredients play very important parts in other diseases, but my present object is to establish a distinction between the phlegmasiæ and pyrexiæ, and I shall confine myself to this point.

After eighteen hundred careful and well-directed experiments, M. Andral lays down the following important and invariable law: viz., *that in local inflammations* (*or phlegmasiæ proper*) *there is always an increase of fibrin in the blood, and that the true buffy coat is never seen unaccompanied by local inflammation.**

From 3.5, the maximum of fibrin in health, it is increased during inflammations to 6, 7, 8, and sometimes as high as 10, while in fevers it is diminished to 2, to 1, and even to .9. In the phlegmasiæ this excess of fibrin continues as long as the inflammation persists, and in spite of repeated and copious depletion.

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* There are *apparent* exceptions in anemia and pregnancy, which will be found satisfactorily explained in Andral's book.

At the *onset* of idiopathic fevers, and in those of light grade, the fibrin is not invariably diminished; but if the disease continue with any intensity, this diminution always occurs.

When the pyrexiæ are complicated with local inflammations, as pneumonia, hepatitis, &c., there is an increased production of fibrin, but it can never be increased so much as in simple inflammations, because the morbific cause of the fever is counterbalancing it by a contrary tendency. It is a fact, too, that those local complications which *belong* to the pyrexiæ, and which are *secondary effects* of the morbific cause, for example, the eruption of small-pox, the intestinal ulcers of typhus, buboes of plague, the gastritis occasionally seen in yellow fever, &c., are not sufficient to cause an increase of the fibrin of the blood.

All the tissues obey the same law; the increase of fibrin is invariably seen in inflammations of the nervous system, the muscular-parenchymatous structures, in the serous and mucous membranes, &c.

"The diminution of the fibrin, every time that it takes place, produces remarkable modifications in the physical qualities of the blood. Whatever be the pyrexiæ in which it exists, the blood drawn from a vein presents the following condition. The serum and the clot are imperfectly separated from each other, whence it follows that there *seems* to be but little serum in proportion to the clot. The clot is voluminous; it often fills the whole breadth of the vessel in which the blood has been received; it is never elevated upon its borders, as is so commonly the case with the clot of the phlegmasiæ. Its consistence is always slight, it is torn and broken with the greatest facility, and there are some cases even where, by the slightest pressure, it may be reduced to a true condition of diffluence; it ceases then to form a single mass, and is divided into a number of grumous portions which mix with the serum, and colour it of a more or less deep red. This is the condition of dissolution of the blood, so well described by the ancients, and which ought to be regarded as a necessary consequence of the diminution that the fibrin has undergone. Then, in effect, the net-work which maintained the globules pressed one against the other, and which, by its power of contraction, squeezed out the serum, no longer exists but imperfectly; thence also arises the great size of the clot which is found to be in an inverse proportion to its density, and which is not a certain index of the quantity of solid material that it contains." The size of the clot is also often increased in the early stage of the disease, by the large proportion of red globules.

These appearances of the blood exist in a remarkable degree in yellow fever, and are sufficient, without minute analysis, to point out a peculiar state of the blood, distinguishing it from inflammatory diseases.

In the phlegmasiæ the clot is smaller, more dense, and of superior consistence, and if the blood has been *properly drawn*, the clot will be covered by a buffy coat of variable thickness, and is usually cupped. Except in anæmia, and, perhaps, occasionally in the last stage of pregnancy, the buffy coat invariably denotes a state of inflammation—no exceptions were found in eighteen hundred cases. The buffy coat may be *prevented* by improper manner of drawing the blood, but it cannot be *produced* where inflammation does not exist.*

The hemorrhages which occur in yellow fever, are not less conclusive as to the non-inflammatory character of this disease. The blood in malignant fevers, scurvy, purpura, and all those diseases in which passive hemorrhages occur, show, on analysis, a deficiency of fibrin in the blood—it is so constant that the absence of fibrin and hemorrhages *must be regarded as cause and effect.*

M. Andral, says: "Amongst the phenomena which seem to me to have a direct connection with the diminution of the fibrin, I believe I ought to place in the first rank the hemorrhages that are so common in all the pyrexiæ in which the adynamic or putrid type predominates; that is to say, those in which it has been *proved by analysis*, that the blood had lost some of its fibrine. It would seem that, in this condition, a certain diminution of the fibrin of the blood has, for effect, to permit the globules to abandon more readily the vessels which contain them."

"How, again, can we fail to remark the coincidence, so frequent in the pyrexiæ, of the diminution of the fibrin of the blood and of the facility of the production of those congestions, or sanguine states, *which have been so often confounded with true inflammations?* Wherefore this coincidence? Deprived of the ordinary quantity of fibrin, borne along with them in the torrent of the circulation, are the globules at the same time deprived of a means of regularization for their movements, and do they come in this way to *accumulate* and *stagnate in the capillary rete?* I know not, but it must be that there is some connection of cause and effect between the diminution of fibrin of the blood and the production of these congestions, since these latter follow so constantly the former."

Independent of the convincing proofs drawn from the blood, the symptoms of yellow fever, and the *post mortem* appearances which I have detailed, are sufficient of themselves to establish a marked difference between the two classes of disease. Acute inflammations of the abdominal and thoracic viscera (the brain is involved in more obscurity) are almost invariably declared by strong diagnostic symptoms during life, and, when fatal, leave behind traces too uniform and evident to be mistaken. Suppose you are called to a simple gastritis, enteritis, hepatitis, pleuritis or other acute inflammation, sufficiently violent to destroy life in from 3 to 6 days, (a common duration of yellow fever,) could you doubt about the diagnosis, or would you be disappointed in finding, after death, lesions sufficient to account for the termination? These are too plain to be disputed, and we are all agreed about them. But in yellow fever where shall we find the footsteps of the disease?

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* When the blood flows *slowly*, the *buff* is not properly formed, because the slow discharge gives one portion time to coagulate before another, and only the blood last drawn furnishes the fibrin at the upper part of the vessel. Again, in a deep narrow vessel the buff will form much more decidedly than in a broad shallow one; because the thickness of the fibrinous crust will be greater. If the blood be agitated during its coagulation, the globules are mixed up with the fibrin, and the crust is imperfect and soft. In order, therefore, to test the blood fairly, it should be drawn in a full stream and received in a deep, narrow vessel.

The *pulse* alone in yellow fever is sufficient to prove that the fever does not *originate* in gastritis; the pulse in the first stage of this disease is often full and bounding; and does not every pathologist know that gastritis is characterized by a contracted and usually very feeble pulse? In this stage, too, irritability of stomach, one of the surest signs of acute gastritis, is wanting.

The *stasis* of the blood in the small vessels, so well described and explained by Andral, no one in the present day will contend is evidence of inflammation; this fulness of the vessels of the mucous coat of the stomach is often seen in those who die of other diseases, or in those who have been hanged or destroyed by accident. Broussais has done much towards the advancement of pathology, though, like most medical reformers, he has pushed his peculiar notions to extremes. This branch of late years is much better understood, and old errors are fading away. Softening of the stomach has been shown to be an equally fallacious test of inflammation.

It has become the fashion of late to speak of yellow fever becoming "*localized*," but to my mind it is just as rational to say, that a storm has "*localized itself*" because it blows down a tree here and there, whilst it is shaking the whole forest to its foundations. That the yellow fever does, in the course of its progress, like all great epidemics, give rise to morbid changes in particular organs, no man of sense will deny; such effects are to be expected from all poisons which pass into the blood, or act in any way on the system. Sometimes in this disease there is gastritis; the liver is often changed in a remarkable degree; the kidneys are found altered in colour and texture; the lungs show dark patches; the brain is congested; bloody tumours form; the secretions are checked; the texture of the skin so changed that I have seen (as in the case of Capt. Atwood, last summer) the cuticle, in attempting to cleanse the face with a wet towel, wiped off, and the skin left as raw as a blistered surface, and this too 12 hours before death.

Who would say that small-pox and plague were *localized* because they effect the skin or glands; and so with the gastritis of yellow fever; nor is there any locality which can be assigned to inflammation which will account for the tendency to rapid collapse, the state of the blood, the depressing effects often seen from depletion, the early demand for stimulants, &c.

To my mind the preceding imperfect sketch of facts establishes satisfactorily the position, that yellow fever should not be ranked with the phlegmasiæ; but we must acknowledge that, though many important facts have been disclosed, there is still something to be explained, which the present state of science cannot reach. We are here driven to analogies and probabilities, but it should be remembered that it is by rational theories we are most frequently led to the discovery of important truths.

Intermittent, remittent, continued and eruptive fevers are unquestionably produced by morbific poisons; we see effects which must have causes. Who can hesitate to regard yellow fever as a well marked-case of poisoning? Sometimes a patient, coming into the infected district, in perfect health, is stricken down by this poison with the rapidity of lightning; the powers of life are annihilated at once, and in 24 hours he dies without reacting from the first blow. I have seen several the last summer whose first symptoms were coma, or convulsions, or both. How different from local inflammations!

The poison is received through the atmosphere, but how or when the first impression is made, are points of dispute. Some poisons act on the nervous system; others make no impression until they are taken into the circulation. Now the poison of yellow fever probably acts in both of these modes; it may be carried by inhalation directly into the blood, changing its composition, and at the same time, while driven to every fibre of the system through the capillaries, may produce secondarily a deleterious influence on the ganglionic and spinal nerves. The muscular pains, the headache, chills, prostration, &c., at the onset prove that the nervous system is impressed, and the facts I have before given, show that the blood cannot be changed without a corresponding change in the various functions. We have seen that the changes in the blood are constant, but, on the other hand, we have no facts to prove that disturbance of innervation is the first link in the chain.

In reasoning on the laws of nature, we are stopped by ultimate facts beyond which we cannot look. Of the action of the nervous system in disease we know but little, and we are therefore forced to fall back on the *tangible alterations of the blood.* Even were we to admit the obvious changes in the blood to be the second link in the chain of causation, it is still no less a point worthy of our careful study. Vitiated blood, like gastritis, hepatitis, phrenitis, and other lesions which arise in the course of the fever, cannot be unimportant; it is to be studied and corrected.

The blood is the great fountain of life; it is itself a living fluid; the elementary particles of which have their attractions and repulsions, their vital affinities as well as their definite proportions, which are necessary to the maintenance of life and health; it presides over all the functions, and reason would say, and analysis proves, that whenever it is altered, health is disturbed.

Venous blood in the brain destroys life; animal heat is intimately connected with oxidation of the blood. All the vitality of the nervous and muscular systems seems to depend on the contact of the blood; this is proved by the effect of tying the blood-vessels, and also of diminishing the total mass of the blood. When the blood is arrested in any part, this part loses its sensibility; the muscles are no longer subject to the will; they lose their characteristic property of irritability. When the brain is deprived of blood, death immediately follows. Venous and lymphatic absorption cease the moment the arteries are tied,—all nutrition, all secretion becomes abolished; gangrene occurs in parts deprived of blood; and when the circulation is arrested, *poisons no longer exercise their deleterious effects, &c. &c.*

The facts connected with the action of poisons, are interesting in relation to this subject, but I have space for but a few cursory remarks on this head.

Many of the inorganic poisons (as some of our medicines), are taken into the blood and emerge again from the body in the secretions, unaltered; they may produce changes beneficial or injurious according to the quantities taken and the condition of the system at the time; many saline preparations, acids, &c., are easily detected in the blood and secretions.

There are other inorganic substances which are not eliminated and thrown off from the system; but they form permanent chemical unions with the constituent tissues of certain organs, or with certain elements of the blood, and often produce changes incompatible with life.

The animal poisons—those which arise from contagious disorders, such as small-pox, scarlet fever, typhus, &c., are governed by laws totally different; they produce changes in the blood by which the same poison is not only reproduced, but multiplied in a remarkable degree. In small-pox, for example, the patient becomes surrounded by a poisonous atmosphere, and the virus is thrown out over the whole surface of the body in the form of pustules, each of which is capable of propagating the same disease to many individuals.

But there is still another class of mysterious poisons, included under the general term *malaria*, which holds the first rank in importance in our southern latitudes. These also are deadly in their effects, and governed by their peculiar laws, and long, patient and well-directed observations have brought a very large majority of our ablest pathologists to the conclusion that these poisons have not the power of reproduction in the human system, and consequently that diseases arising from these causes *are not contagious.*

Yellow fever stands first in importance in this class, but I shall not attempt to argue the question of contagion here. No one in or out of the profession, in Mobile, believes in its transmissibility, and our town is peculiarly well situated for investigating this point. Dr. P. H. Lewis, of our city, has been engaged for some time in preparing a history of this disease, and is now publishing, in the New Orleans Journal, a plain unvarnished statement of the facts, from which I think there can be no appeal.

Of the importance of the fibrin in the circulation of the blood, we are well assured by the important experiments of Magendie, from which it appeared that when the blood is in a great measure deprived of this constituent, or when its coagulating property is destroyed by the excessive or long-continued use of alkalies, the *circulation of the capillaries can be no longer maintained, this preternaturally fluid blood being extravasated from them in various parts of the body, as in malignant fevers.*

The changes in the saline ingredients of the blood, afford an important field for exploration which has not been sufficiently cultivated. Stevens, and others have detected remarkable deficiencies in these ingredients. It is well known that the natural saline taste of the blood is often lost in fevers, and we have numerous instances recorded, where the blood has exhaled when drawn, an odour so fœtid, as to be offensive to the bystanders. Haller predicted a fatal issue in a case from this symptom alone. The effect of long-continued salt food in producing scurvy, is familiar to every one. Eating putrid flesh has produced typhoid fevers. On the other hand, acids, and particularly the mineral acids, turpentine, superacetate of lead, and all the salts, particularly those with excess of acid, have the effect of increasing the healthy *crasis* of the blood, and producing the opposite change.

The effects, too, of living upon much fresh animal food, in increasing the quantity of fibrin, in rendering the blood rich and abundant, and in disposing to inflammatory diseases, are familiar to all.

The researches of Gaspard and Magendie, in order to ascertain the effects of putrid vegetable and animal matter when introduced into the cellular tissue, or injected into the blood, further illustrate the importance that is to be attached to the morbid states of this fluid, as well as the nature and origin of various diseases. These physicians have fully proved that such substances, when thus employed, produce symptoms very similar to those of yellow or typhus fevers ; and that after death, this fluid is found remarkably altered, being nearly altogether fluid, of a very dark colour, and partially exuded from the capillaries, both into the parenchyma of the viscera and from the mucous surfaces. That the blood is really altered in its nature by this inoculation, is proved not only by those changes, but also by the circumstance of its having lost its power of coagulating upon being removed from a vein soon after it has been thus injected, and by its speedy putrefaction.

The more recent experiments of Leuret and Hammont furnish like results ; whilst others of Magendie show that dogs confined over, and breathing the effluvium proceeding from animal and vegetable matter undergoing decay, experience similar symptoms to those now referred to, and the same alterations of the blood, of the secretions, of the excretions and of the viscera, as observed in yellow fever: and in all these cases the morbid changes extend more or less to the soft solids, and *particularly to the mucous surfaces*, the lungs, the liver, heart, &c. ; and in some of these cases, black vomit occurred.

M. Gendrin (so well known for his able works on inflammation and fevers), relates the following interesting and conclusive experiments. An ounce of blood drawn from the arm of a patient sick with putrid fever, was injected into the cellular tissue of the groin of a cat; he observed by turns in the animal copious vomitings of bile, first yellow, and then green, dyspnœa; small, frequent and irregular pulse; brown dry tongue; progressive prostration, and, towards the last, convulsive movements. The following lesions were found after death; the skin of the groin was detached; the cellular tissue soft, pulpy, and of a yellow-ash colour; it had a fœtid odour and was covered with small red spots. The gastro-intestinal mucous membrane was in its natural condition; the blood was liquid and black; there was in the left pleura two ounces of dark serous blood; the heart was flaccid and soft; the dead body in a short time exhaled a putrid odour, &c.

Some blood furnished by epistaxis occurring in the same patient, was injected into the crural vein of a dog, who died with the same train of phenomena. He also injected the blood of patients affected with confluent small-pox, into the veins of different animals; violent symptoms supervened which were speedily fatal, and *post mortem* examination showed high inflammation of several organs.

MM. Depuy and Leuret introduced into the cellular tissue, and injected the veins of healthy horses, with blood from others affected with malignant pustule, and the disease was reproduced.

In conclusion, then, I would say that the foregoing facts establish—1st. That yellow fever should not be classed with the phlegmasiæ; 2d. That the blood is greatly changed from its normal state; 3d. That yellow fever is a condition of the system produced by a depressing poison which acts through the circulation; 4th. That the black vomit is blood, changed in colour by secretions, after it is exhaled.

It may now be asked what practical deductions are to be drawn from these pathological facts? And to my mind the answer is both easy and satisfactory. If yellow fever be the result of a depressing morbid poison, if it be not inflammatory in its nature, I would lay down as a *general rule*, that it is not a disease which demands *active* depletion, either by blood-letting or purging. According to the established rules of practice, the lancet is used to combat inflammation, plethora and active congestions, and where, I would ask, are these indications to be found?

We are, also, not unfrequently compelled to deplete actively in transient arterial excitement produced by stimulants, morbific miasms, &c., and where neither of the foregoing indications are present. Now this kind of excitement is occasionally seen in the yellow fever of Mobile, in the onset of the disease, when the system reacts from the first impression of the morbific cause; but such cases are rare.

If I am asked whether the lancet should be proscribed in yellow fever, I reply, certainly not. The poison of yellow fever (like that of the plague, scarlet fever, small-pox, &c., like opium, alcohol and other poisons), is sometimes followed by a turbulent and dangerous state of excitement in the arterial system, and the pulse *must be* brought down to its normal standard of force; but you must not expect to bleed a poison out of the system. When the pulse is full and strong, and is decidedly *above par*, the lancet should be used promptly and boldly, to guard against the production of local lesions; but we should at the same time bear in mind that this stage is of short duration; that we are dealing with a specific disease which has a strong tendency to early collapse, and that we may soon have "need for all the strength we take away." These are cardinal points, which I take to be well settled in the minds of experienced and judicious practitioners.

In conclusion, I beg leave to remind the reader, that I am writing of the yellow fever of Mobile, as we have seen it during the epidemics and endemics of 1837—'39—'42—'43 and '44, which have afforded an ample field for observation. He who is ignorant of the various types in which this Protean disease appears in different years, and in different latitudes, must either not have read, or read to little purpose the history of yellow fever. In one epidemic, we are told the lancet is the sheet anchor—in another, it is death. This difference occurs to a limited extent in Mobile, but the *rule* is, beware of the lancet.

Even the blood-thirsty Rush, (whose philanthropy we all admire,) after singing so loudly the praises of the "*coup sur coup*" system in 1793, and pointing triumphantly to cases where he had drawn 100—150 and even 200 ounces of blood, is forced by stern facts to lower his tone in '98, and in 1805 he tells us, that many of his cases would bear but one bleeding, and others none at all, and this is the point to which experience and sober judgment must inevitably come.

MOBILE, November 10th, 1844.

ART. II.—*Strictures on the use of the term Congestive as applied to low forms of Fever, with some general observations on the pathology of these diseases.* By ISAAC PARRISH, M. D. (Read before the Philadelphia Medical Society, at the session, 1844–45.)

THE term congestive is now extensively employed to designate certain alarming, and oftentimes rapidly fatal symptoms which arise in the course of malarious fevers, more especially as they prevail in the southern and southwestern portions of the United States.

The fatality of these fevers, in certain seasons and localities, carries terror to the inhabitants, and the name by which they are known has become established in medical nomenclature as descriptive of a malady in which congestion of the internal organs is considered the most prominent pathological state.

I propose, in the present paper, to take exceptions to the term by which the disease is now generally designated, on the ground that it is not expressive of its true pathology, and is calculated to lead to serious errors in practice. As the basis of these remarks, I shall adopt the description of the disease as given by two competent and faithful observers residing in different portions of the country, who have portrayed it as it occurred under their immediate observation, both in the intermittent and remittent type. Those gentlemen who listened to the paper of Dr. Charles Parry, of Indianapolis, read before this society in the winter of 1842, will recollect the thrilling interest excited by his account of several epidemics which had occurred under his notice at that place—and the interesting discussions growing out of these observations. This memoir, abbreviated and condensed, appeared in the *American Journal of Medical Sciences* for July, 1843—and is now referred to, as containing one of the most graphic descriptions of the disease termed congestive fever, in its intermittent form, which has yet been published.

The chief points in the paper of Dr. Parry, may be thus summarily stated. The congestive fever, in the vicinity of Indianapolis, prevails at the close of summer, and during the autumn until the appearance of heavy frost, occurring simultaneously with the ordinary remittent and intermittent fevers of that region, with this difference, that the former are observed along the low marshy grounds skirting the rivers, while the latter usually occupies the table-lands. The disease in this locality generally assumes the intermittent form, the first paroxysm differing but little, to an unpracticed eye, from an ordinary seizure of intermittent fever, but to one accustomed to the disease, presenting certain physiognomical traits indicative of its true character. After the first seizure, and during the intermission, the patient moves about as usual, feeling, however, remarkably languid, and at the end of twenty-four or forty-eight hours, according to the type it may assume, he is attacked with a second paroxysm. This is marked by extraordinary violence, generally terminating in from three to six hours in reaction, and another intermission, or in death. The symptoms which mark this period of extreme illness, and which are supposed to characterize the disease as *congestive*, are peculiar. There is a sense of universal rigor, and extreme coldness, intense and insatiable thirst, the patient constantly imploring the attendants for cold drinks, and begging to be placed in cold water, as the only means of relief.

The bowels are disturbed—bloody, serous discharges pour out copiously, without pain or effort, but a short period intervening between the dejections. In some instances pure blood is discharged, and Dr. Parry recites one case in which as much as twelve ounces escaped at one time. The general appearance of the evacuations is that of bloody serum, without smell, and comparable to the "water in which recently killed beef has been washed." There is but little abdominal pain or tenderness on pressure; sometimes vomiting, with great irritability of the stomach, and a sense of weight and burning at the epigastrium. The respiration is irregular, sighing and peculiar, with a horrible sense of suffocation, which induces the patient to insist on getting up, to sit by an open window, that he may catch every breath of air. There is no cough or mucous rale. There are great restlessness and jactitation, and oftentimes surprising muscular strength until within an hour or two of dissolution—the sufferer being able to jump out of bed and walk about while he is pulseless. The surface is cold, livid, and covered with a sticky, clammy moisture, and the skin of the hands is wilted and shriveled, as in the collapse of cholera maligna. The pulse, when it exists, is small, thready, and very frequent, sometimes more developed, but irregular and intermittent. The capillary circulation is torpid. The intellect is generally unclouded, even while the other symptoms are so terrific—there is no tinnitus aurium, blindness or perverted vision—there are some cases, however, in which delirium occurs, and in some the patients are comatose. The discharges of urine are scanty or suspended altogether.

The above assemblage of symptoms indicate a highly malignant and mortal disease, of an intermittent type, occurring in a miasmatic district, at a season favourable for the development of this poison, and ceasing on the occurrence of frost. The description here detailed will be found quite analogous to that given by authors, of the malignant or pernicious intermittent of warm climates—sporadic cases of which are occasionally seen in this latitude, or occur in persons just arrived from the south. It is now known as congestive fever.

The only difference between this form of the disease, and that described by other observers, is, I think, in the type, and perhaps in the degree of violence. In the other varieties, the disease comes on more gradually, with that feeling of malaise which precedes the ordinary remittent fever; the symptoms of remittent being afterward developed, and suddenly assuming, at the end of four or five days perhaps, an alarming aspect, which determines its true character, and gives it the title of *congestive.*

An account of the remittent form of the disease as it prevails in Mississippi and Louisiana, was published in the *American Journal of Medical Sciences*, for April, 1844, by Dr. R. G. Wharton of Grand Gulf, and may be considered as a fair description of the disease, known as congestive fever in those states. In this memoir, the same general phenomena, described by Dr. Parry, may be recognized. The cool, clammy skin, quick, thready pulse, sighing respiration, sense of suffocation, intense thirst, præcordial heat, serous discharges from the bowels, jactitation and restlessness, unusual muscular strength, &c. &c. The rapidly fatal termination of the disease, when once fairly formed, and the necessity of commencing the treatment in anticipation of its approach, as the only means of saving the patient, are alike insisted upon by both writers.

Assuming the above summary to present an outline of the symptoms which distinguish this form of fever, as a distinct and peculiar disease, let us now inquire into its pathology, and briefly examine the grounds upon which the term congestive is applied to it.

This inquiry involves considerations of a very important character. It is too often the case, that men act from the influence of names—and under the cover of a false term, commit serious errors, and form wrong conclusions.

With certain terms, particular ideas are associated, and the mass run away with the name, without investigating its true meaning, or entering into any examination of the phenomena or ideas which it purports to represent.

In medicine, this is a great evil; it leads to looseness and vagueness in pathology, and to varieties of opinion and practice based upon different views in regard to the meaning or intent of certain terms, which may represent different, and even entirely opposite states of the system.

To a certain extent this is inevitable, arising from the imperfection of language, which must always exist, and which is common to all branches of knowledge; but still it must be confessed that many defects exist in medical terminology which are remediable, and which it is our duty to expose and correct. In a science where words influence practice, and thus indirectly affect human life, it is particularly important to use terms having a definite meaning, and to beware of the adoption of those which may lead the inexperienced into dangerous errors.

The origin of the term congestive, as here applied, can doubtless be traced to the peculiar views of a certain class of physicians in reference to the pathology of the disease in question, while its continuance is now urged upon similar grounds, by a large number of intelligent practitioners. The word is derived from the Latin *congero*, to amass, and, in a medical sense, conveys the idea of a turgescence or fulness of blood in a particular part. Used in the present case, it should indicate that the chief characteristic of this variety of fever, consists in the overloaded or turgid state of a particular organ or organs, that the phenomena peculiar to it are produced by this fulness; that this is the *fons et origo* of the alarming symptoms which mark it, and the cause of the speedy death of the patient, and hence point out as the primary indication in its cure, the unloading of the oppressed organ or organs, by means of general or topical depletion. A necessary connection appears to exist in the minds of physicians between the term congestion and the depletory or antiphlogistic practice, just as it does between inflammation and the use of the lancet—and in this fact lies the great danger of the name.

I am aware that there are many experienced practitioners who have seen much of this disease, and who are fully convinced of the dangerous tendency of the depletory practice, who still adhere to the term congestive, under an idea that there is an accumulation of blood in particular organs, by which they are oppressed, and their functions impeded; but that this turgescence is of a passive character, and results from a want of due vitality and energy in the oppressed organs. This is the doctrine of Drs. Parry and Wharton, to whose essays I have referred. Under this view of the case, congestion means nothing more than the settling of blood about the central organs and great vessels, because there is not force enough in the nervous system to act upon the organs which propel it through the body. The congestion is here the consequence of diminished nervous power, and is nothing more nor less than that state which occurs in all cases of sudden prostration. It is not a pathological condition peculiar to this form of fever, or necessarily connected with it, except as one of the phenomena of nervous exhaustion, or of the dying state when this event happens.

It occurs to a certain extent in fainting, in nervous shock after severe accidents and operations, and under a great variety of circumstances where its existence is not noted as an element in the pathology of the disease. I contend, therefore, that the use of the term congestive, *in this sense*, is no more appropriate in the disease under consideration, than it is to any prostrate condition of the nervous system, induced from other causes. If it be, then we might say that every individual who dies of any disease or accident, is labouring under *congestion*, because, as the heart ceases its action and the tissues lose their tone, the blood becomes congested, or, more properly, settles in the heart, large vessels, lungs and other central organs, leaving the capillaries and smaller vessels by the simple force of gravity.

Restricting the term, however, to the expression of a pathological condition, in which, from some cause or other, there is a tendency to a flow of blood to some one or more internal organs, by which a state of "suffocated excitement" is induced in these organs, threatening their speedy disorganization, if not relieved—what is the argument for the existence of this state in the disease termed congestive fever?

It is contended by the advocates of the doctrine of congestion, that the essence of this disease consists in an overloaded condition of the vital organs, dependent on the violence of the exciting cause—acting, some say, primarily upon the capillaries of the skin, and others say through the nervous centres; that instead of being a disease of low action, it is one of the highest degree of activity, and the patient dies if not relieved, from the disorganization of vital organs, and not from nervous prostration. To illustrate this view of the case more perfectly, let us revive the simile employed by one of the most eloquent defenders of this doctrine, while arguing the question on this floor, during the session of 1842. The blood, said he, is driven by the tonic contraction of the capillaries, to the central parts of the body, where it is pent up in the heart, lungs and viscera, just as the water of a mill-race is confined by the shut-gates—if the gates are not opened when the water reaches the summit, there will be an overflow, and so if an outlet is not opened for the blood thus confined, there will be a fatal overflow, breaking down the tissues and destroying the structure of organs necessary to life. Hence the accumulation must be relieved, and the only outlet is through the medium of an open vein—this is the flood-gate which must be hoisted, and the sooner it is opened the better for the safety of the patient. This method has the merit of consistency; if the danger arise from congestion of internal organs, depletion general and local is the most rational remedy.

It is further urged that all the symptoms indicate a congested state of the vital organs. The sense of præcordial heat and oppression, with constant and unsatisfied thirst for cold drinks, and even for ice, is assumed as indicative of congestion of the mucous membrane of the stomach—the irregular and sighing respiration, so peculiar in this complaint, is adduced as evidence of a mechanical impediment to the passage of air through the lungs, from vascular turgescence of these organs—the bloody and serous dejections are supposed to denote active congestion of the intestinal mucous membrane—the absence of biliary secretion is said to indicate deep engorgement of the portal circulation and of the liver—while coma and delirium, when they exist, are attributed to congestion of the brain.

A reference to post-mortem examinations will throw but little light upon either side of the question—as these have been so rare as not to be brought into the argument;—it is probable, however, that the advocates of the doctrine of congestion might suppose their position strengthened from this quarter, inasmuch as a certain amount of congestion of the vital organs is frequently observed as a post-mortem appearance in persons dying from all diseases, and more especially after sudden illness.

The chain of argument here presented is, I believe, a correct view, though necessarily very brief, of the views of those who hold to the doctrine of congestion, as applied to the disease under consideration. It appears plausible, and has been generally entertained, not only by those physicians who advocate depletion, but by those who rely mainly upon large doses of calomel, and by that large and increasing class who place their confidence in stimulants and tonics: the latter considering the congestion to be secondary and passive, and the others viewing it as an active pathological state.

I will now endeavour to state some of the reasons for maintaining a different opinion, and for urging the disuse of a term which I seriously believe has led to lamentable errors of practice, and which is now employed to represent two precisely opposite conditions of the system, by men who are arrayed against each other upon the most important questions of practice.

Before proceeding to this part of the subject, allow me to refer to the source to which I am indebted for many of the views now presented.

Those gentlemen who were the private pupils of my lamented father, or who attended his lectures on the Practice of Medicine, will remember the doctrines which he taught in reference to fevers of a low grade, and the points on which he differed from the prevalent opinions of other medical teachers of that period. The theory of Armstrong, which attributed the death of the patient in fever to congestion of the internal and vital organs, and that of Rush, which considered the danger, in violent cases of fever, to arise from "suffocated excitement" in the vital organs, were at that time in the ascendant. Upon them was based the depletory practice, so extensively pursued, for the last thirty or forty years, and still urged by the admirers and advocates of these doctrines. In the epidemic typhus fever which prevailed with such fearful mortality in Philadelphia, in the winter of 1812–13, and of which Dr. Rush died, my father took decided ground against this doctrine in reference to typhus, and in opposition to the prevailing practice, pursued the stimulating and tonic plan of treatment in this disease. The results of this course were most gratifying, and contributed in no small degree to elevate him to that rank as a practitioner which he afterwards held. The facts and arguments by which he was led to this conclusion, formed the subject of several lectures which were embodied in his course on the practice of medicine. They apply with equal force to the disease now termed congestive fever, and were adduced by him, during the late years of his life, against the use of this term, as expressive of the peculiar characters of the malignant intermittent and remittent fevers of the U. States, which he believed to partake of the same general features as the malignant typhus, although differing in some important respects.

To return, then, to the question of the propriety of the term congestive as now popularly employed.

A review of the symptoms which characterize the fevers termed congestive, so far from indicating the existence of this condition, will, I think, on a more rigid analysis, furnish strong evidence against it. We remark first—the languor, lassitude and general malaise, which usher in the attack, indicative of a depression of the nervous system, are the first links in the chain of morbid actions, in *this* as in all other varieties of fever. The chill which follows and which in the first paroxysm may not be remarkably violent, is succeeded by a feeble reaction, and by an inability in the system to establish a complete solution of the paroxysm as in ordinary intermittents. This fact manifests the unusual depression of the vital power, which is fully made known on the access of the succeeding paroxysm, by the frightful phenomena which appear.

All the symptoms which now present themselves, and which have been so well described by the writers referred to, indicate extraordinary and alarming diminution of nerve power from the energy of a poison acting primarily on the nervous centres, and not, as we contend, from *congestion* of the vital organs.

I shall endeavour to sustain this view of the subject, by an individual examination of the several symptoms, attributed to congestion, and by a comparison of these with like appearances or phenomena, which occur in other states of the system, in which nervous exhaustion is universally admitted to be the prevailing condition. If this position can be maintained, I shall hope, at least, to have removed one great obstruction to the proper understanding of the subject, and to have accomplished something towards reconciling the theory and practice of those gentlemen who advocate the stimulating plan in the treatment of this fever.

The advocates of congestion regard the intense and insatiable thirst, which distinguishes this form of fever, as a strong evidence of internal heat and excitement in the vital organs, especially in the stomach. The desire for ice and cold drinks being, as they say, a natural craving to cool and soothe the injected and irritated organs. Now it is well known that thirst occurs under two opposite conditions of the system, viz., in a state of *excitement*, and under the influence of *prostration*—and that in the former case it is less craving and more easily satisfied than in the latter.

The thirst of the exhausted state is an incessant, uncontrollable and urgent desire for drink, which cannot be appeased by the most copious draughts. Its urgency is well depicted by Dr. Parry, in the memoir heretofore quoted, and has been remarked by all the writers on low fevers, as a distinguishing feature of these complaints. It occurred in the epidemic typhus fever of Philadelphia in 1813, and is noticed by the New England writers on the same disease. It is also one of the most distressing symptoms in malignant cholera and in yellow fever. It is akin to the thirst which occurs after uterine hemorrhages, where the patient lies cold and pulseless from *loss of blood*. The surgeon is familiar with it after severe accidents in which the nervous system has received a violent shock, and in cases where large quantities of blood have been lost in operations. It is noticed by writers on military surgery, as amongst the most distressing torments of the wounded on the field of battle.

It was a prominent complaint amongst those mortally wounded during the late riots in this city—as those who witnessed the sufferings of these unfortunate men can testify. It is a thirst peculiarly indicative of a prostrate condition of the system, and has no relation whatever to congestion of the internal organs, unless the absurd contradiction be assumed that patients labouring under the effects of enormous hemorrhages, are at the same time the subjects of an overflow of blood upon vital organs.

The respiration so peculiar to this fever, has likewise been supposed to be owing to a mechanical impediment to the passage of air through the lungs, from an undue accumulation of blood in these organs. It is represented as *irregular* and *sighing*, and to be accompanied with a distressing sense of suffocation. Now this condition of the respiratory apparatus is especially noticed by Dr. Marshall Hall, and others, to occur in prostrate conditions of the system from copious hemorrhages and other causes. It resembles the respiration which occurs in fainting, in hysteria, &c.

It is not the laboured, hurried and panting respiration, with stricture across the chest and suffusion of the countenance, which occurs in mechanical obstructions. It more closely resembles the breathing which might be supposed to accompany prolonged syncope. The sense of suffocation which coexists with it, is also found to occur in similar states of the system, where no suspicion of congestion of the lungs is entertained. One of the most striking instances of this fact occurred to me about a year since. It was the case of a young woman who was labouring under anæmia, from a protracted uterine hemorrhage. The sense of suffocation and desire for air were distressing attendants upon her case—she died from exhaustion, and almost in the act of crying out for the hoisting of the windows and the opening of the doors. Post-mortem examination in this case revealed a perfectly healthy condition of all the organs—the lungs, instead of being engorged with blood, were unusually pale and bloodless, as were all the tissues of the body. Such facts must be familiar to most physicians.

It is somewhat surprising that the influence of the eighth pair of nerves has not been adverted to by the writers on this and other varieties of low fever, to explain the peculiar phenomena which affect the respiration. In pursuing the hypothesis of congestion, the fact seems to have been overlooked, that the functions of the lungs are liable to be impeded from a want of nervous power, as well as from an overflow of blood. Bichat performed the section of the eighth pair in animals, and found that the breathing became once very laborious, and continued so until the death of the animal.

Dupuytren repeated these experiments some time after, for the special purpose of determining the degree of influence which the brain exercises over the lungs, through the medium of the pneumogastric; and published the result of his investigations in a memoir of remarkable interest. He arrived at the conclusion that the animals upon whom this section was made, die of asphyxia. Blainville, Provençal and others, arrived at a like result, after laborious research.

Le Gallois has since carried the experiment further, by the division of the recurrent nerve, distributed to the larynx, and found that death occurred from suffocation in less time than by division of the par vagum; and further, that by opening the trachea below the larynx, the sense of suffocation was immediately relieved, and the animal was resuscitated, thus proving that the difficulty arose from a contraction in the opening of the glottis.

These experiments were made the subject of an elaborate and able report, read before the French Academy in 1811, and contained in Dr. Le Gallois's interesting work on the "Principle of Life." Their relation to the subject before us, and the exceedingly valuable facts developed by them, render them well worthy of notice in this connection. The depressed state of the circulation which is so remarkable in this form of fever, and which has been attributed to congestion of the vital organs, may also be explained by reference to these experiments. In all the animals in whom the pneumogastric was tied, the beating of the carotids became immediately feeble, and these vessels lost their tension and fulness—vomiting also occurred in all the animals capable of performing that act. Without entering at large into this branch of the subject, which would prolong this article beyond proper limits, it may be stated as a general conclusion that the disturbances in the several functions of the heart, lungs and stomach, which have been attributed to congestion in these organs by the advocates of this doctrine, may be explained upon more rational principles, and with a much greater amount of direct evidence in its favour, upon the principle of diminution of the nervous power belonging to these organs, through the medium of the pneumogastric and its recurrent branch.

There is, in fact, no little similarity between the phenomena produced by a division of the pneumogastric and the cold stage of a malignant intermittent.

A similar analogy has been noticed by Andral between these phenomena and the symptoms arising from dangerous or fatal hemorrhages; while the sagacious Dr. Marshall Hall has remarked, that a close resemblance exists between the respiration of a patient labouring under exhaustion and one supposed to be oppressed by a congestion of blood in the lungs.

Another proof of the existence of congestion, advanced by the advocates of this doctrine, is that the condition of the capillaries of the surface of the body, the general coldness and moisture which prevail during the disease, indicate a diminished supply of blood in the superficial vessels; and it is urged, that during the chill, there being a tonic contraction of the capillaries, as evinced by the rigidity and coldness of the surface, blood is forcibly thrown back upon the vital organs, thus causing their congestion. This is a mere hypothesis; and in our ignorance of the formation and functions of the capillaries, and their relation to the general circulation, it is altogether premature to assume them to possess the power of tonic contraction, much less to contend that they have the propelling energy here attributed to them.

Drs. Parry and Wharton both describe the skin as cold and clammy. The former remarks, that "the capillary circulation appears stagnated, as indicated by the lividness and coldness of the surface of the body, the paleness remaining after pressure, a cold, clammy, sticky sweat, sometimes extending from head to foot, but frequently only over the face and neck; the skin on the hands is shriveled, wilted, and they look as if they had been soaked in ley, like a washerwoman's hands." From this description, the capillaries would appear to be *enfeebled* rather than excited, into *tonic contraction*, and to partake of the general prostration which pervades the whole system. The moisture which covers the surface manifests also an enfeebled and relaxed rather than a contracted and rigid state of these vessels.

There are, in fact, that death-like coldness and clammy sweat which occur after hemorrhages, accidents, &c., and which are always indicative of imminent danger—and it appears to me just as reasonable to contend for a tonic contraction of the capillaries and internal congestion, under these circumstances, as in the case before us. To illustrate this view of the subject a little further, let us take a case from surgery. A man falls from a height on his head, and receives a severe concussion of the brain. He immediately loses his sensibility—vomits, becomes pallid and cold, and, were his sensations not obliterated, he would probably complain of a chill; his respiration is irregular, sighing, or perhaps stertorous, and his pulse beats feebly and irregularly. Shall we say, in this case, that there is tonic contraction of the capillaries, driving the blood towards the central organs, or that having left the surface it must necessarily have become engorged in these organs, and hence that he is labouring under congestion, and must be immediately depleted to save his life? The surgeon who would adopt this mode of reasoning and act upon it, would in all probability precipitate the death of his patient, and forfeit his claim to the character of a sound practitioner.

There is another symptom to which the advocates of congestion attach great importance—as indicative of engorgement of the intestinal mucous membrane. I allude to the discharges of blood and bloody serum from the bowels, which form so alarming a feature in low fevers. If these discharges be the result of congestion, nature institutes a most effectual method to relieve it without the aid of medicine—a method which, from its violence, threatens to destroy the patient. It is not proved, however, that any remarkable injection of the mucous membranes precedes these discharges, nor is it necessary to suppose its existence. In the absence of positive proof upon the subject, two prominent causes may be suggested, furnishing a probable explanation of this alarming symptom. The first is found in the condition of the blood itself, and the second in the relaxed condition of the tissues through which it passes.

That the blood is a fluid possessed of a degree of vitality, is, I believe, generally admitted, while its vital and chemical condition is now acknowledged to constitute an important element in estimating the phenomena of disease. The revival of the humoral pathology under the new lights afforded by animal chemistry, must be regarded as an auspicious era in the science of medicine. Its complete overthrow, and the substitution of the exclusive doctrines of the solidists, by turning the investigations of pathologists into the circumscribed channel afforded by the latter, have probably retarded rather than promoted the progress of medicine. It is therefore gratifying to observe the tendency of modern inquiry; and to find some of the most eminent pathologists of our times directing their attention to this new field of research. The late work of Prof. Andral, on the physical alterations of the blood and animal fluids in disease, as well as the valuable memoirs of Laycock and of other British writers, furnishes ample evidence of the good results which are likely to flow from these investigations.

The old authors attributed much of the danger and violence of the class of fevers which they termed malignant, to a *putridity of the humours;* and although their theories based upon this idea, cannot be received as authority at the present day, they still point to a very essential element in the consideration of these diseases. That the blood is affected, in its vital and chemical properties, by epidemic influences in the atmosphere, cannot admit of doubt. This is seen most conclusively in the various modifications of the inflammatory process, which occur in particular seasons and localities. Let a patient receive a simple incised wound, for instance, during the prevalence of an epidemic erysipelas; and instead of a healthy, adhesive inflammation or an exudation of plastic lymph, from the blood, whereby the cut surfaces will be united, a destructive process is instituted, which may spread to surrounding parts, and may even destroy life. Hence it has often happened in malignant fevers, that the incision made by a lancet in the act of venesection, has resulted in erysipelas and gangrene. The same thing occurs in malignant scarlatina—where mortification has been known to follow a leech bite, or has spread over and around a blistered surface—hastening the death of the patient. An alteration in the properties of the blood is further observed in those violent fevers in which the secretions are altered or arrested. Thus in the worst cases of malignant typhus, the blood passing through the liver does not give up its bile, or through the kidneys, its urine; when drawn from the arm it is black and tar-like, and fails to separate into serum and crassamentum. This has been called "dissolved blood," and is seen entering the cellular tissue in the form of petechiæ, issuing from the gums in drops, and running off from the bowels in large quantities.

The black vomit of yellow fever, and the bloody fluxes of the old writers, are of the same character. May not the discharges which occur in what is termed congestive fever, in its most aggravated form, result from a similar alteration in the blood? and, viewed in connection with the other symptoms, is it not much more rational to impute them to this source, than to suppose that they are the result of an irritation of the mucous follicles of the intestines, whereby a congestion of blood is invited to this surface? Did time permit, this branch of the argument might be extended, in order to show, that discharges of a similar character do occur under circumstances where no one supposes the existence of congestion. One case, which recently fell under my observation, I cannot avoid noticing as an illustration of this fact.

During the late riots, a man was brought into the Pennsylvania Hospital, mortally wounded by a ball passing through the abdomen, tearing up the walls of this cavity, and exposing the intestines, although without penetrating their cavity. Through the kindness of the attending surgeons, every facility was offered for examining the cases of these unfortunate patients—and this man attracted particular attention, from the fact of his throwing up from the stomach a dark, bloody fluid, resembling very much the black vomit of yellow fever, within an hour or two after admission. He was at this time cold and pulseless, affected with thirst and vomiting, and almost insensible. There was nothing in this case to invite congestion to the stomach—nor would his general condition have justified the supposition of its existence. The same thing not unfrequently occurs in the moribund state, or immediately preceding it, in many diseases—and is one evidence of the breaking up of the system.

In those cases of intermittent or remittent fever in which coma or delirium occurs, congestion of the brain is confidently stated to be present; and although this is a rare form of the disease, it is supposed to strengthen the general conclusion as to its congestive character. Now it is well known that coma, delirium and convulsions occur in two opposite conditions of the brain—both from a redundancy and from a deficiency of blood in the organ. Examples of the former condition are numerous and familiar—while illustrations of the latter, although less generally recognized, are nevertheless frequently met with, and cannot fail to strike the unprejudiced observer.

The violent delirium of mania—the most intense mental excitement, is constantly met with in connection with a pallid and anæmic condition of the system, which can be traced to debilitating causes, and sometimes to the direct abstraction of large quantities of blood. Coma and convulsions often occur in hysterical females, or in married women after copious uterine hemorrhages. All the symptoms of oppressed brain, are seen in children wasted down by exhausting discharges from the bowels, or labouring under sympathetic affections of the organ dependent on intestinal irritation.

These, with a multitude of similar facts, should convince us of the absurdity of pronouncing upon congestion of the brain, from the fact that there is coma, delirium or convulsions in a given case, without taking into consideration the state of the general system, and the various attending circumstances.

I have now presented an analysis of some of the symptoms which distinguish what is termed congestive fever, and which are supposed, in an especial manner, to indicate its congestive character. It has been my object thus far to prove from negative rather than from positive evidence, that this view of the subject is erroneous, and to point out, by reason and analogy, that all these phenomena may and do occur under circumstances which forbid the idea of congestion, that the various organs which are disturbed in the progress of this fever, are similarly affected by causes of a depressing character acting upon the nervous system; that nervous shocks from accidents, operations, &c., will produce them; that they may even arise from hemorrhages when the system is drained of blood; and that the discharges which sometimes mark this disease, may be fairly attributed to alterations in the blood itself, combined with laxity of fibre.

It has been before remarked, that no *positive* evidence of the existence of congestion has been advanced by the advocates of that theory—their whole argument being based upon the language of the symptoms, which conveys to one mind a meaning the reverse of that which is comprehended by another. Post-mortem appearances might furnish data for more positive conclusions, although even these may be subject to ambiguity when viewed independently of other circumstances. It is somewhat remarkable that in all the accounts of a disease so confidently styled congestive, no post-mortem appearances are recorded; nor does it appear that examinations have been made, at least by our American writers. This is probably attributable to the season of the year in which the disease occurs, to the tendency of the bodies to rapid decomposition, and to the incessant occupation of the physicians during the epidemics, leaving them no time for prosecuting such investigations. So far, however, as pathological anatomy has illustrated the pathology of fevers generally, no confirmation is given to the doctrine of congestion.

The interesting researches of Dr. Stewardson, in reference to remittent fever, of Drs. Gerhard and Pennock in regard to typhoid and typhus, and those of Louis on the yellow fever of Gibraltar, manifest particular changes in the organs, not sufficient to account for all the symptoms of these several varieties of fever, and deemed by them as secondary to a pre-existing condition of some other portion of the body.

In reference to remittent, which is of malarial origin, and intimately related, if not identical with what is termed congestive fever, the latter being a high grade of the former, Dr. Stewardson remarks, "Independently of the spleen, the liver was the only organ uniformly altered in the cases which we have examined, but as this alteration was certainly not inflammatory, it is impossible to regard the fever as symptomatic of such a lesion. We are thus driven to seek the essential element of the malady in some other portion of the economy. That the blood is very generally, if not always, diseased, is highly probable, and although the opinion which would attribute remittent fever to this cause, be incapable of rigorous proof, it seems to me, that it possesses very much the same degree of probability as a like opinion in reference to typhoid and typhus fevers."*

In the dissections instituted by Drs. Gerhard and Pennock, at the Philadelphia Hospital, during the epidemic of typhus fever which occurred in 1836, no invariable characteristic lesion of the tissues or solids of the body was discovered, but the tissues were *permeated with a dark, dissolved blood;* in some instances the spleen was softened, as well as the greater tuberosity of the stomach.† These references to the late developments of pathological anatomy in regard to other fevers, are not, of course, assumed as applicable to those termed congestive, as they have not been the subject of special examination; they are merely noticed as confirmatory of some of the positions taken in this paper, and as evincing the fact, that so far as post-mortem investigations have proceeded, under the guidance of the most acute and rigid observers, they have not discovered congestion as a cause of death, or as an essential element in fevers of a low grade, having many points of resemblance to those under review.

There is one other species of evidence, which I shall adduce of the non-congestive character of this fever, which partakes somewhat of a positive character, and to which I invite special attention. It is the effect produced by therapeutic agents in controlling and arresting the violent symptoms.

It has been before remarked, that consistency would require an adoption of the depletory practice, on the part of those who believe congestion to be the primary and most alarming pathological condition in this complaint. If an organ is oppressed by an accumulation of blood in its structure, distended beyond its natural dimensions, and its functions thus suspended by mechanical obstacles, the most rational course would seem to be, to abstract a portion of the superabundant fluid, in order to enable the system to rise above the weight of disease which oppresses it.

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* See Stewardson on Remittent Fever, *Amer. Journ. Med. Sci.*, April, 1842, p. 292.

† See Gerhard on Typhus Fever, *Amer. Journ. Med. Sciences*, Feb. and Aug. 1837.

It is upon this principle that general and topical depletion is recommended by many high authorities in the treatment of this as well as of other forms of malignant fever; and if the theory of congestion were true, it should be the only successful method of practice. But what does experience teach in reference to this matter?

The most intelligent and experienced physicians in those districts in which this fever prevails, (if our information is correct,) condemn the depletory practice as dangerous, and attribute much of the frightful mortality which has prevailed at particular periods, to its indiscriminate adoption.

Some of these practice topical depletion to a limited extent, to relieve, as they say, local congestions, in conjunction with stimulants, tonics and revulsives. This is the practice recommended by Dr. Parry. Dr. Wharton considers capsicum in large doses almost a specific for the intense thirst which prevails. The vomiting, dyspnœa and oppression are, he states, relieved by stimulants—amongst which he ranks brandy as the best. He has seen the most intense headache and restlessness instantly relieved by a large dose of this article.

An intelligent practitioner of Tennessee has informed me that he believes many of the ordinary intermittent and remittent fevers in his district might be thrown into the dangerous form called congestive, by copious depletion, or a large dose of tartar emetic; and there is no doubt many simple cases become alarming and fatal by injudicious practice.

After the establishment of reaction following the chill or cold stage, both Drs. Parry and Wharton rely solely upon large and repeated doses of quinine, to prevent the accession of another paroxysm. By some recent authorities, quinine is given through all the stages both in remittent and intermittent, and it is said, with the happiest results. The testimony in favour of this practice, from various quarters of the country during the past year, is very strong, and calculated to break in upon the long-established prejudices against the use of bark or quinine in the early stages of remittent fever. Dr. Wharton says of it, "In this town, (Grand Gulf, Miss.,) quinine was scarcely used, till the latter part of the summer of 1837. The great mortality which prevailed then, when contrasted with the present success in this disease, is to us, who have witnessed it, one of the strongest proofs which could be adduced of its inestimable value." And Dr. Parry says, "Although I like all the collateral assistance I can receive from other articles, yet the sulph. quinine is the remedy. It is the master article of the materia medica—with it, and reaction once established, I believe nearly every case can be cured, and without it, scarcely any recover."

If quinine be a remedy so potent as to disarm this frightful malady of its terrors; and if brandy and other diffusible stimuli are proved to be serviceable in relieving many of the symptoms which threaten the speedy destruction of the patient—then the theory which attributes these symptoms to congestion, must either be abandoned, or the ground must be assumed, that congestion of the vital organs is relieved by the two opposite methods of depletion and stimulation. Rather than to occupy this contradictory position, would it not be wise to abandon the term congestive, as vague and delusive, and seek for one more in accordance with the views which experience sanctions and reason approves?

The word *malignant*, which denotes a fever produced from an intense contagion, or from a malarial poison, attended with violent and dangerous or mortal symptoms; or its modern synonyme, *pernicious*, would perhaps be sufficiently intelligible to most minds; and would, at least, be free from the objections here urged against that now in use. A more definite and descriptive term, however, is, I think, to be found in the word *adynamic*, from the Greek root, signifying want of power—thus designating the primary element and most conspicuous feature in the disease. This term has been adopted by some of the late British writers, to distinguish the class of fevers formerly known as typhus—and as the great object of words is to convey a distinct and uniform meaning, free from ambiguity, and not liable to variety of construction, it appears to possess an advantage over both malignant and typhus—the peculiar cause and type of the malarious fevers giving them a distinctive character, in connection with the nervous prostration which attend them. I can see no objection to this nomenclature, even on the part of those who adhere to the idea of passive congestion, dependent on a want of power in the heart and blood-vessels, and secondary to the depressing influence of the malarial poison on the nervous centres; whereas, by retaining the term congestive, they are designating the disease by one of its less important symptoms, and giving the sanction of a name to a practice which they deprecate.

Similar objections to those here stated, might be urged against the use of the word inflammation—as applied to the explanation of a great variety of diseased phenomena, having no special relation to each other, and requiring opposite plans of treatment. In fact, in the estimation of many physicians, inflammation and congestion form the basis of the whole fabric of pathology. They can conceive of no important disease without the existence of one of these two states; and they attribute all the lesions which are observed after death, to the previous occurrence of one or the other of these processes. It is to be hoped, however, that a new era is dawning upon medical science; and that with the increasing light which we are constantly receiving upon many abstruse physiological questions, and more especially upon the composition and vital properties of the fluids, that more comprehensive views of the nature and treatment of disease will be generally diffused, and that medical nomenclature will be gradually adapted to the new facts and principles which the researches of science may unfold.

Art. III.—*Case of successful Extirpation of a Fibrous Tumour of the peritoneal surface of the Uterus by the large peritoneal section.* By Washington L. Atlee, M. D., of Lancaster, Penn., Professor of Medical Chemistry in the Medical Department of Pennsylvania College, Philadelphia.

June 8th, 1844, I was consulted, at the recommendation of Dr. G. T. Dare, of Coleraine, by Miss L. P., and received from her the following history of her case.

In the spring of 1843, she began to have frequent desires to urinate, but her attention was not particularly drawn to the circumstance until the 15th of October, 1843, when she felt, for the first time, a tumour in the right groin, about the size of a pullet's egg. About two weeks previous to this, she had been thrown from a horse, from which accident she suffered very much in her right groin, side and hip, and was confined to the house for several days. At this time she is not able to ride more than a mile without stopping to pass water, and she rises once or twice, sometimes oftener, during the night for the same purpose. She is in the habit of drinking very little in the evening, in order to prevent much disturbance from this cause at night. There has been no difficulty in the process of defecation, but she has been somewhat troubled with constipation, which she relieves with a single soda powder or a pinch of salts. Her menstruation has always been regular, but painful. It, however, has latterly diminished in quantity, is sometimes clotted, and is followed for a short time by fluor albus. Twice last winter she was seized with pain in the tumour, and down the thighs, lasting about half an hour, and so excruciating as to almost produce fainting. She felt confident that the tumour was coming away at that time, as she believed it to be in the womb.

She is 24 years of age, rather over the medium height, has always enjoyed excellent health, excepting while undergoing medical treatment for the tumour. About one week, however, after she had first sent for Dr. Dare, she had an attack of inflammatory rheumatism, which continued for two weeks. Her constitution is good, the digestive functions go on well, there is no other local disease, and her muscular and osseous systems are well developed.

I examined the patient in company with my brother, and found a tumour occupying the hypogastric and right iliac regions, resting closely upon the pubic bones, being prominent above the symphysis, and gradually retreating toward the spine as the hand ascended towards the umbilicus—the fundus of the tumour occupying a point one inch below the navel. The tumour was hard, resisting, somewhat uneven, and presented an edge in the right iliac region. The only tender spot on handling was on its upper surface.

It was movable, and could be rocked upon the brim of the pelvis over to the left iliac region.

In examining per vaginam, the finger, as soon as it entered, came against the convex surface of a hard tumour immediately behind and below the arch of the pubis, and resting firmly against it. This rounded surface extended throughout the pelvis, pressing the uterus down against the perineum and rectum so firmly that it required some slight force to insinuate the finger between them. Upon the inferior face of this tumour was a ridge about the thickness of a finger, occupying a central position, and running in the antero-posterior direction, which evidently was the cervix uteri, the os tincæ being plainly perceptible in its anterior end—the neck of the uterus appearing to lay between the tumour and the perineum, horizontally upon the latter. On carrying the finger around towards the left side it fell into a sulcus apparently between two tumours, but which I supposed was caused by the inferior one being the flattened fundus of the uterus occupying that position, and the upper one being an enlarged ovarium. The fundus of the uterus was more evident upon the left than on the right side, and its neck and body appeared to have been curved upon the tumour. The uterus, while the tumour was in situ, was pretty firmly fixed in its position, and did not appear to have been altered in its texture or size, nor was it painful on handling. I now attempted to raise the tumour out of the pelvis, but it required considerable and continued force before I could effect it. I, however, raised it sufficiently high for my brother to get partially beneath it at the pubic region, and to sustain it while I continued the vaginal examination. The uterus now took its natural position more nearly, became movable, and the finger could be passed between it and the tumour, so as clearly to show that the tumour was distinct from the uterus. Motion of the one did not affect the other, and both could be moved independently of each other. This part of the examination was most carefully conducted both by my brother and myself, separately and together, so as to leave no doubt resting upon our minds. There was very little sensibility of the pelvic viscera, and of the tumour in that region. When pressure, however, was made on the anterior part of the tumour in the vagina, it produced a desire to pass water. The bladder occupied this position, and could be distinctly felt.

By the examination per rectum, the tumour could not be felt immediately upon introducing the finger, but after passing it up a short distance it came against a solid convex tumour, which appeared to rest firmly against the sacrum. Beneath this tumour, and lying against the anterior wall of the rectum, the fundus of the uterus could be felt, and when the tumour was elevated, the finger could be passed between the two, and, in this position, also, both were movable independantly of each other.

In a standing posture, which caused the pelvic viscera to descend more against the perineum, the bladder, which contained a little water, was pressed before the tumour, and could be felt like a small purse resting against the posterior face of the pubis with the tumour above and behind it.

The patient having called upon me with the expectation that a surgical operation was the only chance for relief, we sent her home without expressing an opinion in reference to an operation, and desired her to return in about one month to have the examination repeated. In the mean time she was to omit medical treatment, and live as if in the enjoyment of good health. We informed her, however, that we had no doubt of the existence of ovarian disease, and that a subsequent examination would most probably clear up any doubts we might have of the propriety of attempting its removal. Until her next visit she was requested to keep a diary of the state of her health.

My patient returned to Lancaster on the 7th. She had suffered during the interval at times from pain in the tumour and back. She had menstruated on the 19th, the discharge being profuse and attended with much pain. Another examination was instituted more extensive than previously. After surveying the tumour per vaginam et anum, I introduced a sound into the bladder, but instead of passing up anteriorly to the tumour, it kept beneath it, going back horizontally and parallel to the perineum, so that it could be swept from side to side over the inferior convex surface of the tumour, showing that the bladder was beneath it, and that it was impossible for this organ to be lifted by distension above the pubis, being resisted by the weight of the tumour. I also at the same time endeavoured to pass a sound into the os tincæ, but, finding that it would not readily enter, I desisted. It was very evident, however, in this examination, that the upper part of the tumour occupied the right groin, the posterior part rested on the promontory of the sacrum, its anterior portion on the symphysis pubis, and its inferior portion dipped deeply into the pelvis, so as to form a kind of stopple to the brim of the pelvis, and press down the pelvic viscera against the perineum. The tumour had increased in size, was rather more movable, and, in our opinion, free from adhesions. So far as we were able to judge, through the thick, undistended walls of the abdomen, and the simultaneous examination *per vias naturales*, we were of opinion that the pedicle might be an inch or over in length.

From the period of the first examination, she was much less troubled with her water, the elevation of the tumour out of the pelvis at that time appearing to have relieved her, by removing its pressure from the bladder. This relief was permanent.

After viewing the case in all its aspects, my brother and myself considered it a suitable one for an operation. Our opinion was announced to the patient, the dangers and chances of the operation fairly stated in the presence of her sister-in-law, and the matter left wholly to her own decision.

Her father called upon me on the 19th of August with the intelligence that his daughter, after deliberating well upon all that I had told her, had concluded to have the operation performed. He stated that she had come to that determination herself, without any influence whatever; that her mind was well prepared for any event; and that since she had settled the question for herself, she was quite cheerful and happy, and in better health.

She had menstruated on the 16th, and passed a considerable quantity of coagulated blood.

August 26*th*. Miss P. arrived in town. We examined her again the same evening, and found much the same state of things as before, excepting that the tumour had been getting larger. Her health was good; pulse 90; and she seemed in good spirits.

27*th*. Gave the patient ℥i. of castor oil, which operated four times during the day. This morning her pulse, while sitting, was 92; in the evening, 88; while lying down, 80, 81. The skin was soft; hands cool, (their ordinary condition); pulse soft; tongue moist and slightly coated with a brownish fur. Administered fifteen drops of McMunn's elixir of opium at bed-time, to quiet the peristaltic action of the bowels. After having taken the oil this morning, she was entirely restricted to barley water.

28*th*. The patient slept well last night, and arose at 6 o'clock this morning in good spirits. In accordance with her wish, I now gave her a detail of all the steps of the operation, including the preliminary arrangements.

At 11 o'clock, A. M., immediately before the operation, her pulse was 108; skin moist and pleasant; hands rather cool; tongue moist, slightly coated with brownish fur, and frame of mind good. Thermometer in the room 73 degrees, out of doors 65 degrees. Just before getting on the table she passed water.

Every thing having been arranged as in the case of Mrs. S., (*Amer. Med. Journ.*, July, 1844, p. 51,) I commenced the operation in the presence of Doctors Humes, F. A. Muhlenberg, Miller, Dare, Kerfoot, Parry and Cox, and Messrs. Richards, Mellinger, Rohrer, Whiteside, Hershey and Franklin, our students; my brother, Dr. John L. Atlee, being my principal assistant, and Mrs. P., her sister-in-law, her female friend. I made a bold and free incision, about eight inches long, from the umbilicus to the pubis on a line with the linea alba, cutting through the skin, a thick layer of adipose tissue, and the sheath of the recti muscles, until I exposed the peritoneum, beneath which I could see the folds of the intestines. Now pinching up the peritoneum carefully between my thumb and finger, I nipt it open with the scalpel. Through this opening I passed a grooved director, and, with a curved probe-pointed bistoury, I slit open this membrane above and below to the extent of the outer wound. As soon as an opening was made into the peritoneum, most of the small intestines, several inches of the transverse colon and a portion of the omentum gushed out, and gave us a great deal of trouble during all the subsequent stages of the operation. The bowels were of a reddish brown cast, tolerably vascular, and considerably distended with wind. There also issued from the cavity of the abdomen about four ounces of thin transparent serum. My brother now took charge of the bowels, but found it very difficult to keep them out of the way. Indeed, it was utterly impossible to retain them within the abdominal cavity, and all that could be done was to hold them to one side while the operation progressed. The tumour was found occupying the right side and dipping deeply into the pelvis, and upon passing an index finger of each hand on each side of the tumour, until I got them rather under it, I was enabled, by using considerable force, to elevate it from its bed and slip it out of the opening, which was merely large enough to permit its escape. Although the tumour was now entirely dislocated, it was still held firmly down by its attachment so as to block up the wound; and this, with the mass of intestines lying out, so obstructed the cavity as to render it exceedingly difficult to survey the pelvis. I however insinuated my finger alongside of the tumour into the opening, and the first thing I encountered was an immense pedicle running from the tumour to the right side of the uterus, and about one inch and a half in length. This for a moment startled me. In order to examine the state of things, and that we might decide upon the propriety of severing so thick an attachment, I seized the tumour and made gradual but firm traction, so as to elevate it and the adhering uterus to view. This was accompanied with some manifestations of pain, great distress in the back, violent neuralgia of the thighs, and considerable gastric disturbance. The tumour now being sustained by an assistant, the pedicle was found to be a very dense, solid, thick, vascular mass, about two inches in diameter in a perpendicular direction, and one and a half inches thick in the antero-posterior diameter, rather diminishing as it approximated the uterus. It was determined to cut it, and I accordingly transfixed the pedicle close to the uterus with a needle doubly armed with a three-stranded silk ligature well waxed. The needle now being cut out, two ligatures remained, in order that each might embrace half of the pedicle. In tying the anterior ligature, however, the resisting elastic pedicle relaxed the first knot, and thus taught us that too much care could not be observed in this part of the operation. I therefore employed additional and continued force upon the strands, and one of them snapped. I replaced it immediately with the other ligature, and having drawn the first knot very tightly, an assistant kept it from yielding by pressing firmly upon it with the point of his finger, until I had it perfectly secured. Another needle similarly armed was passed through the pedicle near the same place, so as to include a small segment of the circle of the first ligature. The half of this ligature was secured in the same way on the posterior portion of the pedicle, while the two ends of the other half were permitted to hang out of the wound, the pedicle being suspended in its loop, to serve us in raising up the severed pedicle in case of hemorrhage. In transfixing the pedicle, the greatest care was requisite to prevent the bowels being wounded by the point of the needle. I, therefore, adopted the precaution of passing my left index finger down behind the pedicle, and receiving the point of the needle upon it; I kept it thus shielded until it was drawn out beyond danger. In order to make things doubly secure, a four-stranded ligature was thrown around the whole pedicle midway between its transfixed portion and the tumour, and tied first with a single knot, which was kept from slipping by grasping it in the fingers, and then again made to encircle the pedicle, and carefully secured. The pedicle was now severed close to the tumour. At this instant a gush of blood took place from the cut surface, but it being black, our apprehensions were soon allayed—it was the strangulated circulation of the tumour, amounted to from two to four ounces, and was the only hemorrhage that occurred. The tumour being removed, the cut surface of the pedicle was examined; and, although innumerable vessels with open mouths showed themselves like the pores of a sponge, we were rejoiced to see that not a single drop of blood escaped. The great mass of intestines which were out, and occupying the whole wound, prevented us from seeing into the cavity of the pelvis. Besides, the pelvis was unusually deep. I made, however, a careful survey of it with my finger, and considered the uterus and left ovary perfectly healthy in every respect. I also felt the fundus of the bladder, which appeared to contain a small quantity of fluid. After removing the coagulated blood, and cleaning the surfaces with a soft sponge, we endeavoured to replace the bowels, but could not succeed, the cavity being apparently too small to receive them. I at length transfixed the two lips of the wound at the centre with a sewing needle, and secured them with a twisted suture. Then every inch from that point upwards I applied a similar suture, retaining the intestines and omentum carefully at each point of application, until the upper half was thus secured. My brother supported, with the palms of his hands, the intestines that remained out of the inferior part of the wound. Just at the time of completing the upper portion of the wound, violent efforts at vomiting supervened, the diaphragm and abdominal muscles acted powerfully, producing a great expulsive force in the abdomen, and caused the bowels to burst out between my brother's fingers while endeavouring to restrain them, and also forced the upper part of the wound into a prominent ridge, with a gaping between each of the needles, through which interspaces we expected every moment to see the bowels rush—a portion of the omentum did escape at the upper part of the wound. During this exciting time I supported the closed part of the wound with my hand, and called for twenty drops of elixir of opium, which soon calmed down the stomach so that we could proceed in the dressing. In consequence of these efforts producing such a strain upon the wound, I gave it additional security by introducing a hare-lip suture between every two needles already employed. The lower part of the wound was secured at half inch distances by the same kind of suture, and the intestines gradually pressed in as we progressed downward, until the whole wound was perfectly secured by fifteen twisted sutures, and so firmly that it would resist the most powerful expulsive efforts that could arise. Considerable care was required in passing the needles through the lips of the wound, to prevent their points becoming entangled in the folds of the intestines and wounding them. The ligatures came out at the lowest point of the incision, and were secured to the abdomen by a strip of adhesive plaster. Adhesive plaster was also laid under the ends of the needles to shield the skin. A fold of patent lint, a compress and a towel-bandage completed the dressings, after which the patient was lifted from the table into bed, and ordered to have occasionally a couple of teaspoonfuls of cold water.

The operation lasted 19½ minutes from the time the knife was laid upon the abdomen until the tumour was taken away, a large portion of the time being consumed in deciding upon the propriety of cutting the pedicle. The wound was dressed and the patient placed in bed before 12 o'clock. She bore the operation with remarkable fortitude, complaining only when the tumour was dragged up from the pelvis, and at other times giving an occasional moan.

1 P. M. Pulse 88, and weak; wrists, hands, knees, and feet cold; complains of an urgent desire to pass water, and of some pain in the wound, and sickness of the stomach; moans.

4 P. M. The pulse has gradually risen to 112—116, and has become fuller, soft, compressible, and regular; moaned frequently, and vomited several times; has had occasional severe burning pain over the abdomen and in the wound; palms and lower extremities warm; wrists cool; strangury diminishing; disposition to doze. Gave 20 drops of elixir of opium one hour since. Allowed ice water.

8 P. M. Has since vomited some dark coloured bitter matter, and had some thirst and flatulency; pulse 118, more full, quick, and resisting; skin generally warm and natural; palms warmer; tongue natural at the sides, very slightly furred, and less moist in the centre. Employed the catheter, and drew off 2 ounces of straw-coloured and very clear urine, which reddened litmus paper. Complains less of the wound and abdomen, excepting the epigastric region, but more of the small of the back; thirst considerable, uses 2 or 3 teaspoonfuls of iced water. Turned her gently towards the left side and placed a pillow to her back; she expresses herself more comfortable: her stomach appears less irritable.

10 P. M. Vomited a yellow bitter fluid; pulse 120, full, quick, and somewhat hard; lips bright red; tongue more red but not dry; palms dry and warm; rather talkative; occasional flatulence; thirst; inclination to pass water. Took 16 or 18 ounces of blood from the arm, which brought on general relaxation of the skin, with a tendency to syncope; the pulse sunk to 110, soft and very compressible; still feels some pain in the back, and a desire to pass water, 4 or 5 ounces of which were removed by the catheter, since which she feels easier than she has done since the operation. Temperature of the room 72°.

Thursday, Aug. 29th. 6 A. M. Pulse ranged last night from 130 to 141;

more volume and resistance. The skin was dry and hotter, thirst increased; flatulency, and pain in the bottom of the wound after midnight. Dozed some, and had her position changed. Took with catheter 6 ounces of urine, a little more highly coloured, and having a cloudy deposit of mucus; pulse 125, compressible; skin soft; temperature rather above natural; tongue more coated, but not dry; tenderness on pressure along the track of the wound, and in the right iliac region; complains of wind rolling through her bowels, particularly after drinking; thirst considerable, and great desire for water; occasional rifting.

2 P.M. Pulse has ranged from 128-134; vomited at times considerable quantities of bilious fluid; some tympanitic distension and abdominal tenderness, particularly in the left iliac region and left side; flatus discharged several times per anum, accompanied with an inclination to stool; skin warm and moist; palms warmer and dry; bladder relieved by the catheter of 4 ounces of highly coloured urine, which lessened the pain in the hypogastrium; has been using effervescing soda powders.

9 P. M. Pulse has ranged from 134-144; skin moist; flatulency; eructations; thirst; pain in the bowels, and some vomiting. Gave her mild injections and effervescing soda drinks, which brought away flatus and a very little portion of feculent matter. Applied 2 or 3 dozen of leeches to the right side; about 4 ounces of blood drawn, which afforded relief. Drew off 4 or 5 ounces of urine. Thermometer 72°. Has had about ¾ of an hour's sleep. Ordered blister to the epigastrium, 3 grs. of calomel every 4 hours, and ℥ss. of ol. ricini, with 6 drops of elixir opii immediately.

Friday, August 30th. 6 A. M. Pulse 140, rather feeble; skin the same; tongue moist, a little more coated. The oil had been rejected and repeated with the elixir opii. She continued to vomit and discharge flatus. More highly coloured urine drawn off. An injection given, which brought away an alvine discharge, affording great relief. Slept considerably last night, and did not feel the blister. Ordered calomel every two hours.

1 P. M. Pulse 137, soft, more full and open; skin the same; heat of palms; uneasiness across hypogastrium. Blister inflamed but did not vesicate the skin. Has had two highly feculent evacuations, with two lumbricoides; the abdominal distension, which had supervened, and the pain, very much subsided. Fifteen leeches had been applied and drew 3 ounces of blood. Examined per vaginam; there is no excessive heat; the os tincæ not tender, is smooth and moist, and the finger comes away coated with a dark coloured mucus free of smell. Dressed the blister with flaxseed poultice; continued the calomel, and ordered barley water.

10 P. M. Has had strangury from the blister, and some tenesmus. Vomited several times with considerable straining. Has had two feculent stools. Pulse 134, and fuller; skin warm and moist. Catheter employed several times; she also passed her urine voluntarily. Pain diminishing; has

slept calmly for a considerable time, after taking 25 drops of elixir opii. Examined per vaginam—no tenderness; vagina moist and not overheated, and finger coated with a darkish mucus. Ordered 20 drops elixir opii.

Saturday, August 31st. 8 A. M. The patient has had a comfortable night; has had a good deal of sleep; pulse has ranged from 122 to 130; the catheter was used at 3½ and at 6½ A. M., altogether eight ounces of urine; has had several vomiting spells and occasional eructations. Found her sleeping calmly, and breathing softly and regularly; slight stool this morning; no pain or sickness; more distension of the abdomen, but less pain except on the right side below the umbilicus; moving the body produces less distress; pulse 127, 128; tongue natural, rather redder. There has been a considerable discharge along the ligatures of a bloody coloured fluid. Thermometer 72°, wind east; rain last night. Ordered ten leeches to the tender point of the abdomen, and mild injections, cold water and mucilaginous drinks. Has frequent eructations.

9 P. M. Has vomited since; occasional eructations; three alvine evacuations since; considerable discharge of reddish serum from the wound all day, which is increased by pressure over the ligatures; general tenderness of the abdomen has subsided greatly, and much less soreness where the leeches were applied; skin quite cool and moist, but she complains of heat and perspiration; has passed urine herself several times freely; pulse 126, 134, open and less quick; better able and more inclined to help herself; draws up her legs frequently, and suffers less pain; tongue slightly coated with brownish fur and moist; raised the lint and found the whole track of the wound perfectly united, except where the ligatures escape. Left her sleeping. Has been taking elm water and arrow-root.

Sunday, September 1st. 4 A. M. Has vomited several times, and her pulse has ranged from 126 to 133; at present restless and complaining of considerable pain in the lower part of the abdomen, but no increase of tenderness; this was relieved by the catheter, which drew off about six ounces of urine; her pulse now fell from 128 to 122, after giving twenty-five drops of elixir; deep inspiration produced very little pain; skin moist and pleasantly cool; no unusual abdominal distension; occasional eructations; weeping from the wound continues; tongue the same.

9 P. M. Pulse 121, 128. Has enjoyed quite a comfortable day, with the exception of occasional efforts to vomit and some tenesmus. The abdominal distension and pain subsiding. Bowels have been open; she passed water repeatedly herself, and was also aided by the introduction of the catheter. Urine much paler. The uterus free from pain, and the finger less stained by mucus. The patient has been cheerful to-day. Ther. 73 degrees.

This morning we changed all the clothing of the patient, and lifted her into another bed, which she bore well and without complaint.

Ordered an anodyne for the night.

Monday, September 2d. 5 A. M. Took an anodyne at 11 o'clock; has had rather a restless night; her bowels have been disturbed ten or twelve times through the night—the discharge is decidedly feculent, somewhat lumpy, and not thin and watery; also passed water herself; less pain in the lower part of the abdomen while defecating; pulse 120, fuller; tongue less furred; skin moist and pleasant; *turned herself* upon her side, after which her pulse was 118; bowels again moved; introduced an opium pill into the rectum, and ordered one to be used after every evacuation.

8 A. M. Bowels still acting and throwing off the same kind of discharge; pain and tenderness still subsiding; wound still discharges a reddish serum; countenance good; tongue clean but slightly red; pulse 117, 120, more round and full, not hard; stomach much less irritable; skin very nearly natural; palms very little warmer than general surface; slight menstrual discharge. Lifted the patient to another bed. Ordered starch injection with fifteen drops of elixir if the bowels continue irritable.

10 P. M. Pulse 119, 124; bowels have been frequently disturbed; she has, however, passed a most comfortable day, and was cheerful, complaining of the oppressive state of the weather. (Therm. in chamber, 76 degrees, out of doors, at 2 P. M., 82 degrees, weather heavy, with rain, thunder and lightning.) Respirations 24; vomiting has ceased; discharge from wound less red; vaginal discharge a bright red; tongue nearly natural. Administered repeated injections of starch and elixir opii. Changed her to another bed for the night, and gave a suppository of opium.

Tuesday, Sept. 3d. 8 A. M. Pulse has ranged from 114 to 120; has had a very comfortable night; six or eight evacuations, none for the last two hours; free discharge from the wound, but it is now of a decidedly sero-purulent character; no vomiting since; pulse 110, 112.

The general aspect of the case this morning is decidedly favourable. We infer this from the calm, quiet and perfectly natural expression of countenance, the decided improvement of the pulse in force, rhythm and frequency, the altered character of the discharge from the wound, the subsidence of all peritoneal tenderness, except at the point on the right side below the umbilicus, which is less tender.

Dressed the wound this morning for the first time, and removed six of the alternate needles, substituting for them six narrow adhesive straps. From under three of the needles a sero-purulent discharge occurred between the lips of the wound, similar to that escaping from the lower end of the wound. This discharge heretofore must have passed under the whole track of the closed wound and escaped below, having no other outlet. Excepting at these points the whole wound had united. Ordered gruel.

5 P. M. Patient cheerful and calm; no pain; bowels have been moved four or five times, last discharge more healthy; less thirst; vaginal discharge

continues; weeping from wound diminishing; no strangury nor frequent desire to pass water, makes it freely and without pain; still inclines to use the bed-pan. Thermometer 75°. Pulse 110.

9 P. M. Bowels moved slightly once; all the evidences of general febrile reaction subsiding; decided *purulent* discharge from the wound; pulse 114; respirations 23. Left her sleeping with a pulse of 111.

Wednesday, Sept. 4th. 9 A. M. Has had rather an unquiet night, but required less attendance than heretofore; had three slight alvine evacuations after 12 o'clock—employed opium suppositories; some slight irritation of the neck of the bladder remaining; pulse 104; skin natural; the wound discharges a fine healthy pus. Placed a chair under her shoulders, which feels comfortable.

11 A. M. Pulse 110; about 10 A. M. the patient turned upon her left side, which was followed by a very large discharge of purulent matter. She had before this always laid upon her right side, and it being the side corresponding with the pedicle and the site of the tumour, the matter accumulated there without being able to escape.

2 P. M. Quite comfortable since the discharge of matter; the tenesmus has also disappeared; (Query—did the pressure of the accumulated matter produce this tenesmus?) Dressed the wound and removed the remaining nine needles, substituting adhesive strips. Union throughout its whole length, and between the skin and subcutaneous tissue; pulse 110.

9 P. M. Patient almost too lively and excited—her sister and some friends having arrived this evening; bowels slightly moved three times irritation of bladder gone; all symptoms favourable; pulse 110.

Thursday, Sept. 5th. 8 A. M. Pulse 104, 105; did not sleep much last night, the town being noisy; complains of hunger, allowed her a cup of tea. Ordered soda powder. Bowels moved four times since.

Friday, Sept. 6th. 8 A. M. Rested well last night; large discharge of pus this morning and during the night, of a quite offensive character; pulse 110 and weaker. Allowed chicken water.

Saturday, Sept. 7th. 8 A. M. Patient lively and cheerful; rested better last night than ever; great discharge of pure pus from wound; tried the ligatures, three of them yielded about an inch; pulse 100, 104; bowels not moved since Thursday evening.

8 P. M. Patient sat up three hours to-day in a comfortable rocking-chair; pulse 98, 100; has taken two soda-powders. Ordered an injection.

Sunday, Sept. 8th. 9 A. M. Patient slept from 11 o'clock last evening until 6 this morning, having wakened but once; has taken a cup of weak coffee, which has excited the pulse a little, 108; a copious evacuation from the bowels last night. Three of the ligatures came away this morning. —the one which snapped, the loose one, and that which embraced the anterior half of the pedicle, a pubic hair being embraced in the knot. The loop of the latter ligature is half an inch in diameter. Ordered more nourishment; allowed a bird for dinner.

Tuesday, Sept. 10th. 8 A. M. The patient has been doing well since, excepting a slight cough; has been eating eggs, mutton and beef; has slept well and is quite cheerful; walked twice to-day a few steps while supported; menses, which returned last evening, have ceased; has been taking brown mixture since 2 P. M.; discharge is going on from the wound, occasionally mixed with sphacelating portions of pedicle.

Friday, Sept. 13th. The patient continues to do well; walked alone to-day around the room, and down one flight of stairs; sleeps, eats and digests well, and all the functions acting naturally.

Saturday, Sept. 14th. Spent two hours down stairs to-day—passed down and up without fatigue.

Sunday, Sept. 15th. Rode in carriage to-day about two miles. She enjoyed the ride, and bore it well, feeling stronger after she returned than before.

Wednesday, Sept. 18th. Has been out riding twice daily since. Her menses returned yesterday, it being the proper period. She felt all the usual premonitory symptoms, excepting the pain. This evening the patient herself removed the two remaining ligatures, the one which embraced the posterior half, and the other which surrounded the whole circumference of the pedicle —the former is over ⅝ of an inch in diameter in the loop, the latter ⅞. After this the discharge gradually subsided and the wound closed.

The patient continued to improve rapidly, took carriage exercise daily, spent her days out among her acquaintances, and on Wednesday, September 25th, I permitted her to go home, a distance of 24 miles. She left us with buoyant spirits, overflowing gratitude, and in the enjoyment of perfect health.

During the treatment of the case the patient was kindly visited by all the physicians who had been present at the operation. Professor Huston, of Philadelphia, who was in Lancaster a few days after the operation, also accompanied us in three of our visits. Doctors Ness and McIlvaine, of York, Harry and Pennock, of Chester county, and Duffield, Parker and Ehler, of our county, likewise saw the patient.

Description of the Tumour.—The tumour weighed 1 pound 13 ounces, its several circumferences were 1 foot 7¼ inches, 1 foot 6½ inches, and 11½ inches. The cut surface, from which the pedicle was detached, is 2¼ inches and 1⅝ inches in diameter, and 6 inches in circumference. The tumour is very dense and solid. In cutting it the knife feels as if going through sole leather—it partakes, in a very slight degree, of the crackling feel of scirrhus. I split the tumour through the centre—it has a beautifully variegated flesh-coloured appearance. Its cut surface is studded over with stellated points, the radii formed of alternate whitish and flesh coloured lines, which also run in other directions, and intermingle with each other under various forms. Small orifices can be seen opening on to these cut surfaces, and must be vessels cut across in making the section. The tumour is invested with two distinctly marked tunics—the peritoneal and proper coat, both very closely united, and both dense. The proper coat is less closely united to the surface of the tumour, than to the peritoneal coat. At two or three places these two coats are separated in patches about the size of a finger nail, and look like emptied blisters. The tumour is nodulated over its whole surface, has a pinkish white colour, and in its external aspect has all the characters of some specimens of encephaloid degeneration that I have seen. Large vessels can be traced ramifying under its coats; and concentering towards the site of the pedicle, and terminating with open mouths upon its cut surface; one of these vessels is as large as a common sized goose quill. The tumour is of an uniform structure, no point having softened down. I think it may be denominated fibrous or fibro-cartilaginous.

Remarks.—The above case, in my opinion, is one that goes far in testing the propriety of gastrotomy. The cavity of the abdomen was laid open to the distance of 8 inches, and exposed over half an hour under very unfavourable circumstances: the great mass of the small intestines, a large portion of the colon, and a part of the omentum forcibly and suddenly ejected, and exposed to a temperature, during all this time, of at least 25° below their natural heat; subjected, also, to constant handling in opposing their unceasing tendency to be forced out,—occasionally by the most powerful expulsive efforts,—and in continually folding or turning them out of the way; and to considerable pressure and unusual force in replacing them. To this succeeded the repeated riding of these viscera for several days against the ligatures and wound in the violent strainings to vomit. This was a state of things calculated to produce the most intense and fatal form of inflammation;—for it must be evident that peritonitis of the viscera is necessarily more mortal than that of any other form, and that that which supervenes in consequence of omental or parietal attachments, where there has been no exposure or handling of the bowels, is much more innocent and controllable. In Miss P's case, therefore, peritonitis of the most violent and obstinate grade was to be apprehended. This did occur, but it yielded to active antiphlogistic means as readily as idiopathic inflammation. In the treatment of this case, however, we were convinced of the necessity of having the patient under our immediate charge, as death most probably would have occurred from inflammatory action had it not been promptly and decidedly met.

Another cause, favouring an unsuccessful result in this case, was the difficulty of access to the pedicle, and the continued traction requisite to bring it into view. This gave the most pain in the operation. It was not until the uterus was dislocated, and considerably raised, that the thick, dense, and short peduncle was brought in sight, and this was transfixed and tied closely to the uterus, a circumstance calculated to excite metritis. This, however, did not occur, as the several vaginal examinations satisfactorily proved.

Yet notwithstanding all these unfavourable circumstances, my patient is a living record of the propriety of the operation, and her recovery a strong argument towards establishing it in the minds of the profession.

It may be said that my patient was not yet driven to the necessity of an operation, and that she might have lived a considerable time in comparative health and comfort. But I would ask, has not the great error in this decried operation been to wait too long? Has it not been performed in cases where the vital functions have been so deranged that death would have been the inevitable result of *any* great change or sudden impression upon the system? Look, for instance, at Dr. Chrysmar's last case, Mr. West's third case, Mr. Phillip's, Mr. Greenhow's, and Mr. B. Cooper's cases. Has it not been deferred until such extensive adhesions have been formed with important organs, and until the mere size of the tumour has so deranged and impeded the most essential functions, that expectation of recovery was almost out of the question? See Chrysmar's 3d case, and Clay's 6th, 10th, and 12th cases. Has it not been deferred until the disease has progressed and implicated adjacent organs, whose extirpation is almost necessarily fatal, and where the surgeon ought to have closed the wound without completing the operation? I allude to Clay's 5th and 14th cases, and to Mr. Heath's case. And ought it not to be a matter of surprise that, among the cases upon record, so many have terminated successfully in spite of the most unfavourable circumstances? Take, for example, Dr. Roger's case, Clay's 3d and 13th cases, and my brother's 1st case. If an earlier period were selected for gastrotomy, before the health had given way, when none of the important functions had been impaired, is it not likely that the proportion of recoveries would be much greater than the present ratio? The mere wounding of the peritoneum and exposure of the peritoneal cavity cannot alone constitute the danger in this operation. This is seen in the thousand accidents to this cavity; in the timely operations for hernia; in paracentesis abdominis; in the no-tumour peritoneal sections of Messrs. Lizars, King, and Dolhoff; and in the unfinished cases of ovariotomy of Messrs. Galenzowski, McDowal, Smith, Lizars, Granville, Diffenbaugh, and Walne, where the very circumstances which led to the operation were calculated to give a fatal preponderance to such exposure. If then this membrane can be punctured, torn, cut, and its cavity exposed in so many ways with comparative impunity, why wait until these tumours acquire the bulk of 10 to 70 pounds and more before attempting their extirpation? Why wait until the tone of almost every organ in the body is impaired by pressure or congestion, when the wheels of life are literally clogged, and when death would necessarily result from any other capital operation? Why wait until the pathological condition of that very membrane, which has been a spectre to so many, is past recovery? I therefore repeat the question, is it not surprizing that success should attend in any case, as it has in several, of such extent? But let this operation be performed under the same circumstances that are selected for other operations, when the system is in its best condition, and before health has been invaded by the disease, and I feel confident that its legitimacy will be established in the minds of the profession.

Besides, it is admitted on every side that these diseases are beyond the reach of medicinal agents. "They seem to be removed so far from the general sympathies of the system; so insulated in position; so independent in function; that the common agents for the removal or control of disease seem to waste themselves in unavailing attempts to influence their actions, or to modify their affections. Who flatters himself that he has removed a dropsy, resolved a scirrhus, or interrupted a suppuration in these bodies? We believe, if he be candid, none will declare he has. Little more, then, is ascertained, at present, than that these parts are very liable to disease, and but very little susceptible of cure. Unfortunately, they have much more frequently furnished subjects for the anatomist's knife, than triumphs to the physician's skill." (Dewees.) "There is little prospect before a patient afflicted with this disease but long continued annoyance, more or less suffering, and sooner or later broken health, a shattered constitution, and death." (Churchill.) It is needless to multiply authorities: no fact is more generally admitted. If, then, medicine will not reach it in any of its stages, and surgery be not merely the dernier, but the only resource, why delay resorting to the latter until the very period when an operation of magnitude of any kind would be condemned? The opinion of Hunter, too, so often quoted by our opponents, that the less done for it the better, strongly sustains our argument, and was clearly given only in reference to its medicinal treatment and tapping. This opinion is corroborated by the testimony of the whole profession, and by the case of Miss P., whose general health suffered most while under medical treatment.

With this view of the matter, I cannot regard the present list of operations, numerically considered, as a fair test for the propriety of surgical interference, as in many cases the knife was resorted to where death was already staring the patient in the face; and consequently I cannot consider the ratio of mortality as fairly established. I would not wish to be understood, however, as urging extirpation at an early period when the disease is stationary and inactive, and at the same time, independent of serious symptoms; but "delays are dangerous" under opposite circumstances.

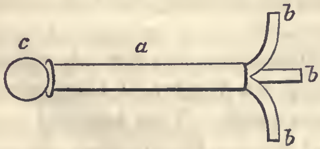
According to the diagnosis the case was considered ovarian tumour; and, during the excitement of the operation, a doubt of the correctness of this opinion did not arise. A close examination of the tumour afterwards, and a calm review of all the circumstances, led me to question the existence of ovarian disease: The peculiar form of the pedicle,—its vascular, fleshy, and resisting structure, entirely free from any fold of the broad ligament, free from any evidence of the Fallopian tube, and having an almost sessile union with the uterus; the uniform and fibrous structure of the tumour,—no fimbriæ or disintegrated ovary traceable within it, while the latter could not have become assimilated in structure, the disease not being malignant; the investment of the tumour being perfectly smooth and free from folds or shreds of membrane; and the tumour located upon the uterus as if stuck there—all induced me to doubt its ovarian character, and to consider it a fibrous tumour of the uterus. This opinion has been fully corroborated by my brother's unfortunate case, as will be seen by referring to his report. I am aware, however, that Bayle says that the development of fibrous tumours of the uterus has not been noticed before the 30th year, although Ingleby thinks he has detected the disease in girls under the age of twenty. I am also aware that authors, in treating of fibrous tumours of the uterus, generally speak of them as occurring within its cavity; and that cases are reported of scirrhous, cartilaginous, and fibrous tumours of the ovary having been extirpated, and also of having been met with in examinations after death.

While referring to the character of the tumour, I will take this occasion to observe, in regard to my first case, that I consider the title given to that tumour, of "Ovarian Cyst," physiologically incorrect. By a close examination of that cyst, I believe it originated, like the one on the opposite side, in the posterior fold of the broad ligament, below the ovary, and in expanding drew in the ovary, so as to cause it to constitute a portion of the upper walls of the cyst. If this be so, it cannot strictly be called an *ovarian* cyst. Does this not, therefore, account for the character of the fluid in that case, which differed so much from the ordinary fluid of ovarian dropsy? When the Graafian vesicles take on diseased action and become distended, is this not indicated by the fluid possessing those characters, greenish, grumous, soapy, chocolate-like, &c., which are considered pathognomonic of ovarian dropsy? And when the fluid is clear, transparent, and serum-like, does it not indicate that the disease has been developed exterior to the Graafian vesicles, in the stroma or parenchymatous structure of the ovary, or, exterior to the ovary, in some of the reflections of the peritoneum? And when the tumour is multilocular, the several cysts containing different kinds of fluid, and exhibiting a compound character, does it not indicate a development of disease both in the Graafian vesicles and the stroma of the ovary? I merely throw out these queries as a hint to those physiologists who are now engaged in discussing this pathological question, not intending to pursue the inquiry here, as it has no bearing upon the surgical consideration of the question.

The extension of gastrotomy to fibrous tumours of the uterus may, perhaps, be condemned. This case might have been reported one of ovarian tumour, if I had not preferred to relate things as they are. I pledge myself to the profession to treat this subject in all truth and candour, to falsify, omit, or withhold nothing, and to write down errors, if such there be, in honesty and without fear—taking censure when deserved. In the decision of a matter of such weight to humanity, personal sacrifices ought to be utterly disregarded. If this operation is to be established, it must be on *correct* statements; if it fail on such testimony, it fails justly, and forever. But if its establishment be attempted on *falsified* reports, and *withheld* facts, then human life must fall a sacrifice to personal and professional dishonesty, and the effort must necessarily die, covered with a mantle of human gore. Let the question, therefore, be met as it ought to be, and its history be a record of truth. I have acknowledged that the case was considered an enlargement of the right ovary, and this is the reason why I examined only the uterus and left ovary before closing the wound, believing the right one to have been extirpated. Proving to be a case of fibrous tumour of the uterus, it did not lessen the dangers of extirpation, as the same parts were involved, and the risks to the uterus and of hemorrhage increased. This, therefore, was an error of diagnosis. Should such errors of diagnosis, as occurred in this and my first case, militate aught against the operation? I think not. For whether it be the right or left ovary, or whether it be an ovary or uterine tumour, provided the case can be clearly diagnosticated as fit for gastrotomy, as these cases were, it could not affect the result. And the result is the great object after all. For should we start out to extirpate the right ovary, and end by cutting off the left, or, instead of amputating neither, we excise a uterine tumour, it in no material way varies or magnifies the operation, nor affects the result. This case, therefore, may be of essential service by proving that ovariotomy is not the only form of gastrotomy worthy of consideration, and calls in question the position assumed by the British writers; that the impossibility of knowing beforehand the *exact* condition of the organs, which it is proposed to extirpate, forms one of the strongest arguments against the operation. Fibrous tumours, growing from the peritoneal surface of the uterus, sometimes reach to an enormous size, and, from their solid character, are likely to impede the functions of adjacent organs more than an ovarian cyst. Indeed, death has even been produced by injuries to the viscera, interposed between the enlargement and the parietes of the abdomen. The same circumstances, likewise, calling for extirpation of the ovaries, obtain here, and the removal of such tumours must be equally legitimate.

In relation to the surgical treatment of fibrous tumours, a novel, curious, and ingenious process has been pursued by Dr. Walker, of Charlestown, Massachusetts, which never has been made public. I am indebted to the polite attention of Dr. H. J. Bowditch, of Boston, for the case, and have received, through him, permission from Dr. Walker to publish it. The introduction of it here cannot be regarded as an improper digression.

I make the following extract from Dr. Bowditch's letter to me: "Since I wrote I have seen Dr. Walker's patient. She is a very intelligent woman, and had written down her state of health up to the time of the operation. The abstract is as follows: From her youth always liable to ill turns of pain in head, stomach and small of back to upper part of thighs. July, 1831, had a very severe turn; violent pain in back, passing through to left side of bowels in front of left hip. Pain seemed like the 'turning of a vice,' as if 'something were drawn very tightly and would break.' From this time until the following December continued to have very ill turns, when she first discovered a swelling 'in front of left hip,' [*i. e.*, in abdomen just in front of sup. ant. spinous process, left side,] as large as a hen's egg. This continued, and she was in poor health during the winter, and in the spring, being very ill, she applied to a physician, who prescribed vegetables, iodine, &c. She was better or worse according to circumstances. The following October [*i. e.*, 1832], the tumour was as large as a goose's egg. The subsequent December she consulted Dr. Channing, professor of obstetrics, who pronounced it ovarian tumour. She was under his care five weeks for palliative treatment, and she continued about the same during the winter. The following spring [1833] health more impaired, tumour augmenting, and constant pains about ilium, and menorrhagia. The abdomen began to grow large, the legs were cramped; she had chills, heats and sweats. At this time she took iodine without benefit. From this time for three years the tumour continued to augment until the operation was performed. At that time she was larger [according to Dr. Walker] than any woman he had ever seen with twins. He could place only two fingers between the summit of the tumour and the ensiform cartilage. It rested on both ilia, and projected out at the sides very much beyond what is usual in pregnancy. The patient still kept moving about, but with the greatest difficulty, owing to the pain, the menorrhagia, and the extreme dyspnœa. She was wearied of life, and upon Dr. Walker suggesting the operation, she readily assented to its performance. He ordered her for a fortnight to keep perfectly quiet, and to take saline draughts every other day, and to live on the mildest diet. Meanwhile he had an instrument prepared like that represented in the subjoined figure. At the operation he plunged a trochar and canula into the tumour, which was one of *extreme solidity*, and left the canula there for a few days in order to excite adhesions between the tumour and parietes. Considerable inflammation was the result, but bleeding, &c., relieved it. When he was satisfied that adhesions had taken place, he passed the instrument just mentioned through the canula, and allowed its branches to push out into



a. A solid round handle of metal.

b b b. Three watch springs firmly fastened into handle.

c. A ring in handle.

the tumour. This augmented for a time, by inflammation, the size of the tumour. It was not removed for six weeks. Meanwhile an ichorous discharge, gradually becoming purulent, had been produced and tumour began to decrease. He then removed the instrument and found one of the prongs almost entirely destroyed. A new instrument was prepared. For several months the patient was kept on the bed, and gradually the tumour subsided almost wholly, so that no one could see that the belly was enlarged at all, and the dyspnœa was gone. The menorrhagia ceased from the first performance of the operation. Since the subsidence the patient has been able to do something for her own support and that of her sister, but a fistulous opening has continued. I examined the abdomen. This fistula is about one and a half or two inches below the umbilicus. There is a tumour or thickened mass, evidently attached to the parietes extending from a little above this opening down to the pubis. I could easily grasp it between my thumb and forefinger. The parts are somewhat tender. Patient has more or less pain daily, but seems very unlike an invalid. The pulse is habitually slightly accelerated. The digestive functions go on well. The pain is much augmented when the fistula ceases its discharge, as it occasionally does. Dr. Walker is very kind about giving information upon this subject. I am not aware that any one has ever proposed, much less performed such an operation. Unfortunately, Dr. W. has mislaid his notes."

It will be observed, in the above case of Dr. Walker's, that inflammation followed the operation, that the patient was confined to bed for several months, and that she has been preserved from premature death, and is now able to attend to her ordinary duties. Yet she is not cured; the sequelæ of the disease remain to annoy her. She has thus passed, with a longer confinement, through all the dangers of gastrotomy, and without that perfect riddance of the disease which the latter operation would have afforded her. I, therefore, would have preferred gastrotomy, and I offer this case as another argument in its favour, thanking Dr. W. for permitting me to use it, and cordially congratulating him upon this novel, and, in a measure, successful exercise of his ingenuity and skill.

To the advocates of gastrotomy it is gratifying to observe that this operation is gaining ground in the estimation of British surgeons, notwithstanding some of their reviewers have condemned it without measure.

The question of preference in regard to the kind of section, minor or major, is still under discussion, and, according to the statistics, the ratio of mortality is least in the former. In addition to the arguments in favour of the large section, there is one light, however, in which this matter appears not to have been viewed, and which, necessarily having an important bearing upon this question, must be an element in the calculation, which will prevent its definite decision. In all minor sections, the tumour must be cystiform and free from adhesions—a state of things most favourable for either operation. In solid tumours, or adhering cysts, the minor section must give way to the major operation—a state of things more unfavourable for success. Those very cases—where the weight and pressure of a solid tumour have been impeding the functions of the viscera; where adhesions indicate pre-existing disorganization of parts, and an injurious check upon their normal mobility; where the operation is necessarily accompanied by much more violence; where there are many more points of irritation by ligatures; and where more extensive changes in the relative position and condition of the abdominal and pelvic organs follow—are the ones in which, apart from the mere size of the wound, the worst results would be anticipated, and in which, too, the large section only could be employed. I see no way, therefore, in arriving at any accurate results, as the circumstances so greatly differ, nor can I conceive the use of attempting its decision, when the condition of things must govern in the case after all. I can see no particular reason why the minor operation should be preferred to the major; and until we become more familiar with all the shades of diagnosis, so as to clear up all doubts about adhesions and the character of the tumour, I shall consider the large section as safe to the patient, and more satisfactory to the operator; and that the arguments in its favour, advanced by Messrs. Clay and Walne, remain unaffected by the results. I would also call the attention of the profession to the fact, that the last case of Mr. West, and the case of Mr. Hargraves, both of which recovered from the minor operation, were not cured of the disease, and that where there are complications of disease, as in the third case of Mr. West, and in Mr Phillips' case, the minor section is as likely to prove as fatal as the major.

Having with considerable labour prepared, for my own use, for the convenience of reference, a tabular synopsis of all the operations so far as they have come to my knowledge, and referred to the authority for each case, I offer it for publication in connection with the report of the above case, believing it to be the most accurate and extensive collection of cases yet published. In making the distinction between the large and small peritoneal sections, I have adopted the limits specified by Churchill: all cases of and under four inches are denominated minor, and all above that major operations—while the distinction by Phillips [*Amer. Med. Journ.*, Oct. 1844, p. 491,) is preserved as far as practicable under the head of "remarks."

In the following table I have noted 101 operations, 18 of the minor section, 75 of the major, and 8 unknown. Of the minor operation 13 recovered, 5 died, or 1 in every 3 3-5; of the major 44 recovered, 31 died, or 1 in $2\frac{13}{31}$; of the unknown, 6 recovered, 2 died, or 1 in 4. Total; 63 recovered, 38 died, or one in $2\frac{25}{38}$, or 38 in 101.

Of the 101 operations, 20 were not completed, or 1 in $5\frac{1}{20}$; and in 6 there was no tumour, or 1 in $16\frac{2}{3}$ cases.

Of the unfinished operations, 12 were the large sections, 6 the small, and

2 unknown; 7 of the first recovered, 5 died, or 1 in $2\frac{2}{5}$; 3 of the minor recovered, 3 died, or 1 in 2; and both of the unknown recovered. Total, 12 recoveries, 8 deaths, or 1 in $2\frac{1}{2}$ of the unfinished cases.

Of the operations in which no tumour was found, 5 were major, and 1 minor; 3 of the former recovered, 2 died, and the minor recovered—making 4 recoveries, 2 deaths, or 1 in 3.

In 11 cases other important diseases co-existed; in one of these the operation was left unfinished, and the patient recovered; death occurred in all the rest. 8 of these cases were the major, 2 the minor, and one the unknown section.

In 42 cases there were adhesions; in 28 none; in 31 not stated. Of the first 24 recovered, 18 died, or 1 in $2\frac{1}{3}$; of the second 20 recovered, 8 died, or 1 in $3\frac{1}{2}$.

Of the cases complicated with other important diseases, 5 were manifestly not proper for the operation, and 3 ought to have remained unfinished after the abdominal section was made. Throwing the former out of the estimate, would leave 96 legitimate cases, and rating the latter according to the mortality of unfinished operations, it would make 64 recoveries, 32 deaths, or 1 in 3, or $33\frac{1}{3}$ in 100, which I consider the correct rate of mortality of the operation as it is represented by the following table.

If, however, we throw out altogether the eleven cases which were complicated with other important diseases, we will have 90 cases—62 recoveries, and 28 deaths $= 1$ in $3\frac{3}{14}$, or $31\frac{1}{9}$ in 100; which, perhaps, is the fairest estimate of the rate of mortality of the cases at present on record.

The cause of death in the 38 fatal cases is recorded as follows:

From hemorrhage, 8; peritonitis, 8; exhaustion, 2; inflammation of mucous coat of large intestines, 1; gangrene of intestines, 1; gangrene of peritoneum, 1; peritonitis and gangrene, 1; causes not stated, 16. Total, 38.

The period of death after the operation in the 38 fatal cases is recorded as follows:

Died the 42d day, 1; in 3 weeks, 1; the 10th day, 1; the 9th day, 1; the 7th day, 3; the 6th day, 3; the 5th day, 1; in 3 days, 3; in 2 days, 1; in 36 hours, 5; in 32 hours, 1; in 30 hours, 1; in 17 hours, 1; in 8 hours 1; immediately, 2; time not stated, 12. Total, 38.

The average time of death in the 26 cases stated, 5.7 days.

The query proposed in the report of my first case, in reference to the cause of death from hemorrhage, is sufficiently answered by the table.

No.	Date.	OPERATOR.	Age.	Incision.			Recovered.			Died.			Operat'n unfinished.	No tumour.	Time of death.	Other diseases.	Adhesions.	Character of tumour.
				Minor.	Major.	Unknown.	Minor.	Major.	Unknown.	Minor.	Major.	Unknown.						
1	.	L'Aumonier -		1			1											Abscess of ovary after parturition
2		M. Dzondi -				1			1									Cyst
3		Mr. Galenzowski	27		1			1					1				Adhes.	Multilocular cysts
4	1809	Dr. McDowal -			1			1									None	Cyst
5		do			1	·		1					1				Adhes.	Cysts
6	1816	do			1			1									None	Scirrhous ovary
7	1817	do			1			1									None	Scirrhous ovary
8	1819	do			1						1				3d da.		Adhes.	Cyst, with bone, hair, &c.
9		Dr. Chrismar -				1			1									
10		do				1						1						
11	1819	do	47		1						1				36 hrs.		Adhes.	Cartilagino. and lardaceous
12	1820	do	38		1			1									Adhes.	Fibrous and cellular
13	1820	do	38		1						1				36 hrs.	Tuberc. liver, and scirrhous mesenteric glands	Adhes.	Lardaceous, and cysts, with brownish size
14	1821	Dr. N. Smith -	33	1			1										Adhes.	Cyst
15		do				1			1				1			Disease of uterus		Uterine tumour
16		do				1			1				1				Adhes.	Cyst
17	1823	Dr. A. G. Smith -	30		1			1										Cyst
18		do				1			1									
19		do				1						1						
20		do. & McDowal			1						1			1	42d d.			Conglomert. intest.
21	1823	Mr. Lizars -	27		1			1						1				
22	1825	do	36		1			1									None	Ovarian tumour
23	1825	do	25		1						1				2d or 3d da.		Adhes.	Ovarian tumour
24		do	34		1			1					1					Solid and vascular
25		Dr. Quittenbaum			1			1										
26	1826	Dr. Granville -			1			1					1				Adhes.	Cyst
27	1827	do	30 ¦ 40		1						1				3 days			
28	1826	Dr. Martini -	24		1						1		1		36 hrs.		Adhes.	Cartilagin's
29	1828	Dr. Diffenbaugh	40		1			1			1		1				Adhes.	Highly vascular
30	1829	Dr. D. L. Rogers	20		1			1									Adhes.	Cyst
31	.	Anonymous -	48		1						1		1		6th d.		Adhes.	Cyst

Cause of death.	REMARKS.	REFERENCES.
		Hist. de Societe Roy. de Médecine at 1783, p. 296, and Edin. Med. Surg. Journ., v. 18, p. 532
	By incision, the use of tents, and subsequent extirpation of the mortified cyst.	
	Opened the tumour, tore up the cells, fixed it by ligature to the wound, and obtained a perfect cure.	Ibid., and Jeaffreson's Essay, Lond. Med. Gaz., 1844–5, p. 81.
	Cyst opened, dirty gelatinous fluid withdrawn, and sac removed; wound 3 in. to the left of rectus muscle.	Amer. Jour. of Med. Sciences, from Eclectic Repertory, p. 261.
	Both ovaries affected, cyst opened, bloody and gelatinous matter escaped, adhesions to bladder and uterus, incision in the same place.	Ibid.
	Incision in linea alba.	Ibid.
	Profuse hemorrhage.	Ibid.
Peritonitis	Incision on the left side.	Ibid.
		Monthly Jour. of For. Med., vol. iii., p. 440: Phila., 1829.
		Ibid.
Gangrene of intestines	Extensive adhesions to colon, stomach and peritoneum; one gallon of yellowish green serum in abdominal cavity.	Ibid.
	Afterwards became pregnant.	Ibid.
Peritonit. and gangrene	Diseased and deformed from infancy; tumour varicose; pedicle 4 in. thick; ascites.	Ibid.
	Emptied the cyst, and removed it.	Amer. Med. Recor., vol. 5th, p. 124.
	The uterus was the most voluminous part of tumour.	Med. and Surg. Memoirs, by N. Smith; edited by N. R. Smith, p. 231.
	Sac emptied, but too adherent to be removed; slight peritonitis; sac and abdomen again filled.	Ibid.
	Emptied the cyst, and removed it.	N. Amer. Med. Journ., Jan., 1826.
		New York Jl. of Med., Sept., 1843, p. 169.
Secondary hemorrhage	The animal ligature used gave way prematurely.	Ibid.
	The patient tapped herself 90 times.	Ibid.
	Deceived by great obesity and distended fulness of bowels.	Amer. Med. Recor., vol. 8th, p. 23.
	Some hemorrhage, ascites, other ovary diseased, but too adherent to be removed.	Churchill's Essay, and Jeaffreson's Essay, in Lon. Med. Gaz., 1844-45, p. 81.
Gangrene of peritoneum		Ibid.
	Omental tumour; blood escaped.	Ibid., and Phillips' Table in Med. Chirurg. Trans., v. 27, p. 472.
		Ibid.
	Very adherent, incised largely, and carefully emptied.	Velpeau's Oper. Surg., p. 528.
	Death attributed to venesection, under the false alarm of peritonitis.	Churchill's Essay, from Med. Gaz., Jan. 13, 1843.
Hemorrhage	Inseparably connected with brim of pelvis; removed a sacculated portion of it.	Ibid.
	Startled at the size of the base of tumour, and flow of blood on puncturing it, and operation abandoned on account of adhesions.	Velpeau's Oper. Surg., p. 528, and London Med. Gaz., 1844–45, p. 81.
	Cyst unintentionally opened, emptied, relieved of very extensive adhesions, and removed.	New York Medical and Phys. Jour., Jan., 1830, p. 285.
	Had been tapped 5 times in six months; had a broad base, and not removable from os innominatum.	Churchill's Essay, from Forieps Notzen.

No.	Date.	OPERATOR.	Age.	Incision.			Recovered.			Died.			Operat'n unfinished.	No tumour.	Time of death.	Other diseases.	Adhesions.	Character of tumour.
				Minor.	Major.	Unknown.	Minor.	Major.	Unknown.	Minor.	Major.	Unknown.						
32		Dr. Ritter	31		1			1									None	Cyst
33	1830	Dr. J. C. Warren	40		1						1				On table		None	Scirrhous
34	1833	Mr. Jeaffreson	40	1			1										None	Cyst
35	1834	Mr. King	40		1			1						1				
36	1836	do	37	1			1										None	Cyst
37		do		1			1						1					Omental tumour
38	1836	Mr. Dolhoff	23		1						1				2 ds.		None	Cyst
39		do	27		1						1		1		8 hrs.		Adhes.	Solid
40		do	23		1			1						1				
41	1836	Mr. West	45	1			1										None	Cyst
42		do	23	1			1											Cyst
43		do	24	1						1						Shattered constitution		Cyst
44		do	40	1			1						1				Adhes.	Cyst
45		Mr. Hargraves	40	1			1						1				Adhes.	Multilocular cyst
46	1840	Mr. B. Phillips	21	1						1					6th d.	Inflam. of muc. coat of the bowels	None	Cyst
47	1841	Dr. Stilling	22		1						1						None	
48	1842	Dr. C. Clay	46		1			1									Adhes.	Solid and fluid
49	1842	do	57		1			1									Adhes.	Cysts
50	1842	do	39		1			1									Adhes.	Cysts
51	1843	do	47		1						1		1		7th d.		Adhes.	Anomalous
52	1843	do	45		1						1				Immediately	Disease of uterus	Adhes.	Fleshy tubercle of uterus
53	1843	do	40		1						1				36 hrs.		Adhes.	Cysts
54	1843	do	22		1			1									Adhes.	Cysts
55	1843	do	40		1						1				36 hrs.		None	Cysts
56	1843	do	43		1			1									Adhes.	Cysts
57	1843	do	59		1						1				32 hrs.		Adhes.	Cysts
58	1843	do	45		1			1										Hydatid
59	1843	do	58		1						1				10th d.			Pelvic tumour
60	1843	do			1			1									Adhes.	
61	1844	do	49		1						1				3 wks.	Uterine disease		Uterine
62	1842	Mr. Walne	58		1			1									None	Many cysts with solid base
63	1843	do	57		1			1									None	Cysts
64	1843	do	20		1			1									None	Cyst
65	1843	do	54		1			1					1				Adhes.	Cysts
66	1843	do	45		1						1					Uterine disease	None	Cysts, solid and fluid
67		Dr. Ashwell		1						1			1					Cyst
68		Mr. Crisp				1			1									Cyst
69	1843	Mr. Morris			1			1										
70	1843	Mr. Southam	37		1			1									None	Cystic sarcoma
71	1843	Dr. F. Bird	35	1			1										None	Cyst

Cause of death.	REMARKS.	REFERENCES.
	First tapped, and 2 weeks after removed ovary.	Churchill's Essay.
Hemorrhage	Ligature slipped.	Surg. Observ. on Tumours, by J. C. Warren, p. 590.
	Fluid evacuated, sac drawn out, and removed.	Churchill's Essay.
		Ibid.
	Cyst emptied of 27 pints, drawn out, and removed.	Lancet, Jan. 21, 1837, p. 586.
		Med. Chirurg. Trans., vol. 27, p. 473.
Peritonitis	Cyst emptied of 15 pints, and removed.	Braithwaite's Retrospect, Amer. ed., No. 7, p. 99.
	Declined removing it, being solid and fixed in pelvis by adhesions.	Ibid., No. 8, p. 101.
		Ibid.
	Cyst emptied of 20 pints, drawn out, and removed.	Lancet, Nov. 25, 1837, p. 307.
	Cyst emptied of 24 pints, drawn out, and removed.	Lancet, Oct. 14, 1839.
Sunk	Constitution much shattered previously.	Ibid.
	Not removed on account of adhesions; had to be tapped afterwards.	Lond. Med. Gaz., 1844–45, p. 86.
—	Not removed on account of adhesions.	Ibid.
Infl. of mucous coat of large intestines	Extensive ulceration of bowels of some standing; died from other disease, not the operation.	Ibid., Oct. 9, 1840.
Hemorrhage		Brit. and For. Med. Rev.
	Incision 27 inches; tumour 28 lbs.	Medical Times, No. 160.
	Extensive adhesions; tumour 24 lbs.	Ibid. No. 161.
	Incision 28 inches; tumour 73 lbs.; very extensive adhesions.	Ibid. No. 162.
Inflammation	Adhesions extensive.	Ibid. No. 163.
Hemorrhage	Tumour and entire uterus, excepting the cervix, removed.	Ibid. No. 164.
Hemorrhage	Ovarian tumour 26 lbs.; very extensive adhesions.	Churchill's Essay.
	Tumour 26 lbs.	Ibid.
Inflammation		Ibid.
	Tumour 31 lbs.; extensive adhesions.	Ibid.
Exhaustion	Tumour 54 lbs.; very extensive adhesions.	Ibid.
		Ibid.
	Tumour 24 lbs.; Dr. Clay says recovered from operation.	Ibid.
	Tumour 26 lbs.; very extensive adhesions.	Ibid.
	A ligature was applied around the cervix, and the uterus and ovaries removed.	Ibid.
		Lond. Med. Gaz.
	Narrow escape, followed by phlegmasia dolens.	Ibid., Aug. 11, 1843, p. 699.
	Tumour 28 lbs.	Ibid., Oct. 13, 1843, p. 47.
	Extensive adhesions caused him to desist.	Ibid., Feb. 23, 1844. p. 686.
	Fibrous tumour of uterus resting against incision is supposed to have caused death.	Ibid., March 10, 1844, p. 723.
Peritonitis	Incision 1¼ in.; sac partially withdrawn; an obstacle presenting, was again returned.	London Lancet, Nov. 1843, p. 155.
		Ibid., Dec. 30, 1843, p. 396.
		Churchill's Essay.
		Ibid., from Med. Gaz., 1843.
	Sac punctured, emptied, and excised.	Lond. Med. Gaz., Mar. 22, 1844, p. 832.

No.	Date.	OPERATOR.	Age.	Incision.			Recovered.			Died.			Operat'n unfinished.	No tumour.	Time of death.	Other diseases.	Adhesions.	Character of tumour.
				Minor.	Major.	Unknown.	Minor.	Major.	Unknown.	Minor.	Major.	Unknown.						
72	1843	Dr. F. Bird -	21		1			1									None	Cysts and solid matter
73	1844	do	21	1			1										None	Cysts
74	1844	do	35		1			1									Adhes.	Cysts
75	1843	Dr. J. L. Atlee -	29		1			1									Adhes.	Cysts and hydatids
76	1844	do	42		1						1				5th d.	Disease of uterus	Adhes.	Fibrous tumours of uterus
77	1843	Mr. Heath -	46		1						1				17 hrs.	Disease of uterus		Uterine tumour
78	1843	Mr. Lane -	28		1			1									None	Cyst
79	1843	Mr. Key -	19		1						1				9th d.		None	Multilocular cysts
80	1843	Mr. Greenhow -	29		1						1				7th d.	Disease of stomach	Adhes.	Dense and vascular-cellular tumour
81	1843	Mr. B. Cooper -	32		1						1				7th d.	Maligna'n disease of the uterus	Adhes.	Solid and cysts
82	1844	Dr. W. L. Atlee	61		1						1				6th d.		None	Bilocular cyst
83	1844	do	24		1			1									None	Fibrous tumour of the uterus
84	1844	T. Bird -	21	1			1											Cyst
85		Ehrhartstein -	36		1			1									None	Solid and cyst
86		Dr. Hopfer -	47		1						1				30 hrs.		Adhes.	Solid
87		do	38		1			1									Adhes.	Solid
88		Macdonald -			1			1									None	
89		Chrissmann -			1			1									None	
90		Groth -			1						1							
91	1843	Mr. Lane -	45		1			1									Adhes.	Solid and fluid
92	1844	do	38		1			1									Adhes.	Multilocular cyst
93		Morgan -		1						1			1					
94		A. B. -			1						1		1				Adhes.	
95		C. D. -	22	1			1							1				
96		E. F. -			1						1						Adhes.	
97		G. H. -			1						1							
98		Case in Gooch -			1			1						1				
99	1839	Guy's Hospital -		1						1			1				Adhes.	Cysts
100	1844	Dr. Bowles -	26		1			1									Adhes.	Solid
101	1844	Prof. Webster -	37		1			1					1				Adhes.	Cyst
				18	75	8	13	44	6	5	31	2	20	6				

Cause of death.	REMARKS.	REFERENCES.
	Incision five inches; cyst emptied, withdrawn, and excised.	Lond. Med. Gaz., Dec. 29, 1843, p. 409.
	Followed by slight peritonitis.	Ibid., Dec. 8. 1843.
	Many adhesions; sac emptied of firm gelatinous matter, and excised; incision 8 inch.; tumour 35 lbs.	Ibid., Aug. 18, 1843, p. 732.
	Both ovaries removed.	Amer. Med. Jour., Jan., 1844, p. 44.
Hemorrhage	4 uterine tumours, with thick vascular pedicles; extensive adhesions; hemorrhage from slipping of ligature.	Not yet reported.
Hemorrhage	The uterus, tumour, and all were removed.	Lond Med. Gaz., Dec. 8, 1843, p. 309.
	Phlegmasia dolens followed operation.	Ibid., 1844–45, p. 84.
Peritonitis	Large vessels on tumour.	From Guy's Hosp. Rep., Oct., 1843, p. 473.
Peritonitis	For four years previously frequent uterine hæmorrhage.	Med. Chir. Trans., vol. 27, p. 88, and Am. Jl. Med. Sci., July, 1844, p. 251.
Peritonitis	A portion of omentum had been included in the ligature.	Med. Chir. Trans., vol. 27, p. 76, and Am. Jl. Med. Sci., Ap., 1844, p. 462.
Insidious peritonitis	Colon involved in a broad pedicle; feeble constitution; both ovaries diseased.	Amer. Med. Jour., July, 1844, p. 43.
	Thick, fleshy pedicle; followed by violent peritonitis; intestines troublesome.	Ibid., April, 1845, p. 309.
	Contents of cyst a light amber colour, and contained a very small quantity of albumen.	Lond. Med. Gaz., Aug. 16, 1844.
	Tumour tapped before extraction.	Med. Chir. Trans, vol. 27, p. 472, Phillips' Table.
	Ascites.	Ibid.
	Malignant tumour.	Ibid.
		Ibid.
		Ibid.
	Portion of fluid removed before extraction.	Ibid.
	Two tumours; cyst emptied before removal.	
	Cysts emptied before removal.	Lond. Med. Gaz., 1844–45, p. 84, Jeaffreson's Table.
		Med. Chir. Trans., v. 27, p. 474.
		Ibid.
		Ibid.
		Ibid.
		Ibid.
		Ibid.
	Not removed on account of adhesions.	Lond. Med. Gaz., 1844–45.
		Western Lancet, Oct., 1844.
	Not removed on account of adhesions. The patient rapidly recovered from the operation, after the peritoneal cavity had been exposed for 2 hours; but the disease progressed, and she died from the disease in about 2 months.	Not reported.

Art IV.—*On the Extraction of Foreign Bodies from the Meatus Auditorius Externus.* By J. Marion Sims, M. D., Montgomery, Alabama.

A foreign substance may remain in the external auditory canal for years without producing any thing more serious than a mere itching in the organ, with partial deafness, and an occasional earache, aggravated often by exposure to cold. Again, it may give rise to a slow inflammation of the meatus, resulting in ulceration, purulent secretion, fetid discharges, "fungoid growths," and total deafness in the affected side: whilst, now and then, we may meet with a case exhibiting a most alarming state of both local and constitutional derangement, such as excessive pain and tumefaction, violent inflammation and abscess, in the part, with general inflammatory symptoms extending to the brain, as manifested by fever, delirium, convulsions, paralysis, &c., terminating but with the loss of life.

To remedy any affection that may be accompanied by so many uncomfortable feelings, and threatened by so many bad consequences, is certainly a matter of no trifling importance, whether considered with the view of affording facility to the surgeon or of insuring safety to the sufferer.

The means of extraction usually recommended in the books are unfortunately often nugatory, sometimes inapplicable, and occasionally injurious, so that a failure not unfrequently ensues, producing a degree of anxiety, embarrassment, and mortification in the operator, equaled only by the pain, sufferings and disappointments of the patient. The best directed efforts may, under certain conditions, be foiled, and that too in the hands of the most skilful. Sir Benjamin Brodie, in a clinical lecture on the "Extraction of Foreign Bodies," (Lancet, January 6th, 1844,) honestly relates a case of this sort. "There was a case brought into the hospital in which there was some foreign body, I believe a pea—in the external meatus. *I tried all sorts of methods to get it out.* I could not use the forceps, and it nearly filled up the meatus, so that either water could not pass behind it, or it was so jammed that the water injected by the syringe would not wash it out. I said, let it alone, let it remain there; the pea in all probability will dry and waste of itself, and then it will come out, or when it is rotten, it may be washed away with a syringe; but I will not make any further efforts to remove it now, for I may drive it into the tympanum and kill the patient."

In addition to the forceps, different writers prefer and recommend different mechanical contrivances, such as probes, hooks, scoops, curettes, and, under particular circumstances, the syringe. I am amongst those who would urge the use of the syringe in preference to every other instrument. It is the easiest, safest and quickest method, and is applicable to every case: it matters not whether the foreign body be large or small; light or heavy; irregular and angular, or even and smooth; occupying a small space or plug-ing up entirely the meatus; of recent introduction or of long standing; or whether it be complicated with symptoms of a local or general inflammatory character. There is scarcely an imaginable contra-indication or a tenable objection to it. It is the only instrument that can be resorted to with any degree of confidence or prospect of success in those unfortunate cases that have been irritated and inflamed, persecuted and worried down by the awkward, injudicious, mischievous and often *brutal* probing and poking with the forceps. I would not, however, by any means, be understood as objecting to the latter instrument *properly* managed, for it is generally the indispensable adjuvant of the syringe.

The use of the syringe is "as old as the hills." To whom the priority of its introduction belongs, I know not; but I believe that the credit of calling the attention of the profession to its universal applicability for the removal of foreign bodies from this canal, is due principally to Mr. Carpenter,* of Castlecomer, Ireland, who succeeded in dislodging "many peas" with it. He moreover extracted "a pebble of a most irregular shape, and so large that he was surprised how the child could have borne to introduce it," and on another occasion he removed a "grain of oats" by the same method.

Dr. James Bolton† has related a case, interesting both in its history and result, which occurred in a little girl aged 13, in whose meatus auditorius, a grain of coffee had remained for seven years. He "syringed the ear with warm water and Castile soap. On throwing in about the third syringeful with some force, a black-looking substance shot into the basin, which, on examination, proved, beyond all doubt, to be the half of a coffee grain."

Mr. Edward Hatfield‡ removed from the ear of a boy, by this means, "a piece of slate pencil which had been pushed further in by the schoolmaster in a fruitless attempt to extract it."

These are the only writers that I have met with, who would lead us to believe that their chief reliance in such cases, was the syringe. Others, however, have spoken of it incidentally; amongst whom may be mentioned Druitt, Fergusson, Gibson, Gross,§ Liston, &c., who have all given some directions for its use, confining it always to the removal of "small bodies" or "inspissated cerumen."

Professor Gibson‖ says, that "upon one occasion, after having ineffectually tried to extract a pea from the ear of a child, by the forceps he succeeded in splitting it with a couching needle and then removed the pieces without difficulty by throwing in a stream of water by a syringe."

Samuel Cooper¶ seems to have had a juster estimate of its value, and has given more explicit directions for its use, but, like the others, would limit it to "the removal of *small* insects, peas, beads," &c. "When the bead or globular substance is *small*," says he, "the best mode of extraction will be by means of the syringe and injection of tepid water." He relates the case of "a child two years and a half old, into one of whose ears a pebble and into the other a French bean had been pushed by another child, and remained there for ten months, causing complete deafness and extreme suffering." By throwing tepid water forcibly into the ear, he soon disloged these foreign bodies, which lay close against the tympanum, entirely hidden by the swollen state of the lining of the ear, indurated wax and dried discharge.

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* American Journal, Jan., 1842, p. 231.

† Med. Examiner for 1842, p. 613.

‡ N. York edition Lond. Lancet, July, 1844, p. 97.

§ Tavernier's Operative Surgery, p. 163.

‖ Institutes and Practice, vol. ii. p. 387.

¶ Surgical Dictionary, Art. Ear.

Velpeau* relates "the thousand different means that have been proposed" by Archigenes, Celsus, Alexander, Mesué, Hameck, Rhazés, Verduc, Donatus, Fabricius de Hildanus, Paulus, &c., &c. Some of which are certainly sufficiently fanciful and absurd; yet in all this formidable array of authors, with their equally formidable array of instruments, the syringe is not to be found.

It is rather a matter of astonishment, that the utility of the simple method we are recommending, should have been passed over in perfect silence by our special writers on diseases of the ear.

Kramer, Pilcher, and Saissy, (or rather his translator, Dr. N. R. Smith,) all recommend various mechanical contrivances, according to the fancy and prejudices of each, or the exigences and indications of the case. They tell us of "forceps," "bent levers," "steel stylets," "small, obtuse, flattened bent probes," "crooked wires," &c., but they make no mention of the syringe. They tell us that when violent inflammatory symptoms arise, and the auditory canal becomes so sensitive that it will not bear the contact of any instrument, we must have recourse to the lancet, leeches, poultices, and in short, to a general antiphlogistic course "till the tumefaction and sensibility are so far reduced as to allow of our thinking of manual efforts," and that even then it would be only by the "greatest dexterity and ingenuity in the selection of our mechanical aids, that we could hope to succeed;" and that it "would often be necessary for the surgeon to risk exciting considerable pain to accomplish this all desirable object."

Seeing, then, how difficult the extraction of foreign bodies from the auditory canal may be, and to what serious symptoms their presence may give rise, do not the efficiency and simplification of our means become a matter of prime importance? All the usual mechanical contrivances may disappoint us, and even the syringe may fail; but this can hardly happen, where the philosophy of its application is properly appreciated, or the rationale of its action fully understood. Whoever follows the loose direction of "Syringing the ear forcibly," will often be deceived. A sufficient explanation of this may be found in the anatomical peculiarities of the organ.

The course of the meatus is curved, running at first forward and upwards;

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* Operative Surgery, with an appendix of notes, by Prof. Pattison, p. 457.

then downwards and backwards: its concavity looking obliquely downwards and forwards. It is an inch and a quarter, or more, in length; about a quarter of an inch in its transverse diameter, a little more in the perpendicular direction, its section being oval. Its dimensions vary, being a little contracted at the orifice, still more so in the centre, which is the narrowest part, and again at the membrane. The anterior semilunar edge of the concha, leading into the meatus, projects considerably below a line forming a tangent with the convexity of the lower wall of the canal. With the obliquity of this passage and its irregular dimensions, it will be found very difficult, if not quite impossible, to throw a stream of water with any degree of force against the tympanum, even when the organ is unobstructed; for if the nozzle of the syringe be directed parallel with the tragus, the force of the injection is spent against the anterior inferior wall or convexity of the floor of the canal; if turned more towards the "semilunar ridge of the meatus," its power is lost on the posterior superior wall or concavity of this tube. But let us change the direction of the canal by laying hold of the lower portion of the anti-helix, pressing the dorsum of the concha forwards, while we put the whole organ forcibly on the stretch, pulling it outwards, upwards and backwards, thus making the meatus a straight channel of a uniform diameter, and then it will be found comparatively easy to throw an injection to its very bottom.

If the foreign body be small, the water will dislodge it as it rebounds from the membrane; if it be large, plugging up the passage, perfectly, two or three injections, properly directed, (the ear held as described,) will be certain to change its relative position. Sufficiently to allow the next to pass by it, impinge on the membrana tympani, and wash it out in its retrograde course, or so far dislodge it as to bring it within reach of the forceps.

The syringe that I use is such as we usually find in the shops, made of Britannia, holding very little over two drachms, having a very long tube of small diameter; the piston, of course, being perfectly air-tight. Water thrown from it suddenly and forcibly, does not pass in a long, slow, continued stream, but seems to strike, as it were, all at once, and with great power.

A syringe of small dimensions is preferable to a large one, because in a small one with a small tube the whole force of the injection may often pass undivided by the foreign substance, so that its "reflex action" is almost as strong as its direct force: on the contrary, in a large syringe with a large tube, throwing a larger volume of water, a small portion only of the stream may pass behind the foreign body, while a larger portion strikes against it in a direct line, with greater momentum, thus counteracting entirely the retrograde force.

Illustrative of the ease, safety and certainty of this method of removing foreign bodies from the auditory canal, allow me to relate the following cases.

Case I. A little negro boy 4 or 5 years old, the property of A. J. McSemore, was sent to Dr. B. R. Jones, of this county, on the first of August, 1842, with a piece of cut glass in his left ear. He had introduced it the day before, and his master had made some fruitless attempts to extract it with a knitting needle. The meatus was swollen, inflamed, and very tender. I happened to be at the Doctor's at the time. We made many ineffectual efforts to get this substance out, using a bent probe, scoop, and forceps. We also used a syringe, but with the view of washing out some coagula of blood, the result of our awkward and clumsy poking with unsuitable instruments. The injury inflicted by our rude attempts at extraction, was by no means trifling.

We were much mortified by the failure, and desisted for the time, till I could go home (as I was then on the eve of doing), and get instruments better adapted to the case. I could procure nothing more suitable than a very delicate pair of long, narrow-bladed, curved forceps, belonging to my strabismus case, which I carried out to Dr. Jones' on the following day, with the confident expectation of being able to lay hold of the bit of glass, and of course, draw it out of the meatus; but unfortunately, the same disappointment attended the use of this instrument that we had met with on the day before, and we were not a little chagrined at it, because it left us without any mechanical resource or even hope of immediate success. The poor child's ear was so swollen and tender that the bare touch of any instrument would almost throw him into spasms. Just before giving the case over in despair to " bleeding and a general antiphlogistic course," I picked up the syringe, for the purpose of washing out a coagulum of blood that was hanging from the meatus. I threw in two or three syringefuls of tepid water, but the exuded blood still stuck there. I then requested Dr. Jones to take hold of the external ear and pull it outwards, upwards and backwards, so as to make the canal straight, and allow me to see into the meatus. He did so, and I injected it forcibly (as I had done often before.) My astonishment was equaled only by my delight, at seeing the glass " ear-drop," as it proved to be, shoot out with great velocity on to the steps of the door in which we had the patient.

Its discharge was altogether accidental, for neither of us ever dreamed of getting it out by means of the syringe.

It was five lines in length, a little over three in width, and nearly two in thickness, slightly flattened on one side, and oval on the other. Its peculiar shape precludes the possibility of holding it between the blades of the forceps, even now. Its size, in connection with the tumefaction of the meatus, shows that it must have been perfectly impacted, and I doubt very much whether it could have been removed, at that time, by any other instrument.

Case II was a little negro girl four years old, the property of John H. Murphy, who was sent to me by Dr. Hugh Henry, on the 14th October, 1842, with some foreign substance in her right ear. On examining the organ, I could discover something like a piece of stick lying close to the membrane which had been introduced the day before. It gave her some pain, but as there had been no useless and mischievous probing of the meatus, it was trifling in comparison with that suffered by Case I. I caught hold of the external ear with my left hand, putting it strongly on the stretch, so as to make the meatus a straight channel, while with the other, I threw a syringeful of tepid water forcibly against the tympanum. A single injection was sufficient to dislodge the foreign substance so far as to make it easy of access; indeed it was brought so near to the external opening, that I was able to extract it with the forceps without even touching the lining of the meatus. It was a portion or segment of a berry of the China tree, melia azedarach.

Case III, and the last that I shall relate, was that of a negro man, Lewis, aged twenty-eight years, the property of William H. Pollard, Esq. Lewis came to me on the 20th August, 1843, saying that he thought there was a piece of dead bone in his left ear. On picking the ear the day previously, the pleasant titillation it produced caused him to run the instrument deeper than he had ever done before, and he was astonished to find it strike against something hard. As it was hard, he thought it must be bone, and as it was not painful, he thought it must be *dead* bone, and the consequence of a diseased condition of the organ, with which he had been occasionally troubled ever since his earliest recollection. He said that he had always been a little deaf in that ear, so much so, that if the opposite one was closed, he could hardly hear at all; that, whenever he caught cold, it seemed to settle there, producing an "itching in the bur of the ear," pain, swelling and tenderness, which would last for a few days and then subside, without any treatment. Now and then, however, he would be confined to his bed with fever, and very violent inflammation of the organ to which he was in the habit of applying onion poultices for two or three days or longer, before he could get relief, and then it was generally accompanied by the discharge of matter.

The last *bad spell* that he had was when he lived in Mobile, in 1834. The first was as far back as he could remember, when he was a very small boy, "just large enough to begin to wait on the table." In his youth, the attacks were more violent, lasted longer, and visited him more frequently than at a later period. It was then that he learned the use of his favourite "onion poultice" from his mistress in Virginia. On examination, I could easily discover something of a very black colour, filling up completely the bottom of the meatus. Exploring it with a probe caused no pain, unless it was pushed forcibly against it. It appeared to be round, and I tried to rotate it, by pushing against it laterally, but it was perfectly impacted and quite immovable. I attempted to pass a delicate pair of forceps, but it was so tight, that the effort of forcing its blades between the foreign body and the parietes of the meatus, caused so much pain, that I had to desist. Moreover, the slipping of the forceps (which happened twice), might, I feared, have a tendency to drive it farther into the organ and perhaps do some injury to the tympanum. It may be that I did not make as much exertion to get it out with the forceps as I otherwise would have done, had I not felt the greatest confidence in being able to dislodge it with the syringe. I had no assistant; therefore, with the left hand I held the external ear, as before described, whilst with the right I threw in three syringefuls of warm water, which had the effect of ejecting it so far as to occupy that portion of the canal between the concha and the curvature, from which it was easily lifted out by the forceps. It was the stone of a cherry, which from the history of the case, as related, must have been in this secure retreat for more than *twenty years.*

It was very smoothly polished and as black as charcoal, which colour it lost in a few days, by exposure to the action of the atmosphere. After its removal, he complained of a feeling of coldness in the ear, and his hearing was painfully acute.—15th November, 1844. I examined Lewis's ear to-day, and discovered a large piece of indurated wax in it, which I loosened with a probe, and removed with the forceps. In its outward extremity is a beautiful cup or concavity, fitting most accurately the cherry stone, which had been removed fifteen months before. A few days after this I examined the ear again, and found it perfectly healthy in appearance, but there is evidently a difference between the dimensions of this and the opposite meatus.

In the ear from which the stone was extracted, the meatus appears to swell out into a pouch or sinus, in its posterior wall, a short distance from the tympanum.

This is the spot occupied so long by the cherry stone, more recently by the inspissated cerumen, and doubtless owes this peculiarity to the fact that the stone was introduced when he was a very small child, and the meatus thus accommodated itself to the size and shape of the intruder.

Art. V.—*Case of Gun Shot Wound of the Chest—the thick linen patch, with which the ball was enveloped, remaining in the left lung twenty years.* By M. H. Houston, M.D., of Wheeling, Virginia.

The subject of the following case was late proprietor of the United States Hotel, in this city, and in that capacity became acquainted with many physicians from different parts of the country, to most of whom he made known the peculiarities of his situation. Those who recollect his case, will doubtless be gratified to learn the results of a post-mortem examination.

Mr. John McMullen, at the time of his death, was about forty-five years of age. When twenty years old, whilst on a hunting expedition, he slipped his gun through the crack of a fence preparatory to crossing himself; in doing which the gun went off, lodging the whole load in his left side. The contents of the gun, consisting of a large ball, a thick linen patch and some tow wadding, entered beneath the axilla, between the fifth and sixth ribs. The ball passed obliquely upwards and backwards, in the direction of the ribs, and was lodged at the side of the spinal column, immediately beneath the skin. An incision was made through the skin, and the ball together with a piece of bone, supposed at the time to be a portion of one of the vertebræ extracted, and as much of the wadding as possible, was taken out through the opening made by the entrance of the ball. There was considerable hemorrhage at the time from the wound, and also some expectoration of blood.

After many months of suffering, he recovered from the effects of the wound, so far as to be able to attend to the ordinary duties of life, not neglecting among others that of matrimony and the getting of children. He was left, however, with a cough of a peculiar character, and abscesses formed from time to time in the situation of the wound, beneath the axilla, which were opened or burst of themselves, and continued discharging for an indefinite length of time, pus of a very fœtid character. Whilst the discharge continued his cough was very much relieved, though from the extreme offensiveness of the discharge to himself as well as others, he always desired the external opening to be closed as soon as possible. In the mean time, his general health suffered from the continued irritation in the lungs. He became dyspeptic, and was subject, particularly during the summer months, to frequent attacks of flatulent colic, cholera morbus and diarrhœa. He was in the daily habit of taking large quantities of Sal. carb. sodæ, and, for his attacks of colic, made a free use of æther and laudanum. He consulted many physicians, in different parts of the country, none of whom afforded him any other than temporary relief. At one time he visited Pittsburgh for the purpose of being operated on for stone in the bladder, under which, in addition to numerous other maladies, he imagined that he laboured.

The above history I derived from himself and his friends. I first saw him in the spring of 1838. He had then been exposed to cold—was labouring under flatulent colic, and had frequent violent paroxysms of cough attended with considerable hæmoptysis. Not being acquainted with his past history, his situation struck me as being alarming in the extreme. Each paroxysm of cough seemed as though it would prove his last—the pain from the colic was severe in the extreme, and it was difficult at first blush to determine which of his apparent serious ailments ought to command the most prompt attention. He soon gave me to understand, however, that he considered the colic and cough as matters of little moment—they were old and familiar acquaintances—it was the bleeding which alarmed him, and for which he had sought my advice. Under the use of astringents, anodynes, and carminatives, the hemorrhage ceased, the cough subsided, the colic was relieved, and, in an hour or two, his situation was in every respect as comfortable as usual.

At this time, and during the subsequent period of his life, he presented some peculiarities not unworthy of notice. His face was the colour of parchment,—very much wrinkled, and having a good deal the appearance of tripe. His left shoulder was much depressed, and in walking he had a *one-sided* gait, the right shoulder being considerably in advance of the left. He enjoyed a suppleness of the joints almost equal to that of the celebrated India rubber man of the theatres. His favourite position, when either sitting or lying, was with one foot drawn up to the hip, and his chin resting on the knee. In addition to his other sources of suffering, he had double inguinal hernia, which was probably one reason why he preferred the position I have mentioned.

It is unnecessary to give a full detail of his subsequent history. The attacks of diarrhœa and colic became more and more frequent, and more protracted. He could not be prevailed on to control his inordinate appetite, and every imprudence was followed by more or less severe derangement of the digestive organs. During these attacks, his cough was aggravated, and the expectoration increased. The paroxysms of cough were somewhat similar to those of hooping-cough, or rather they were such as would be produced by a foreign body in the larynx. They continued without any intermission, until complete exhaustion took place, and when this happened he expectorated the usual quantity of pus, with scarcely an effort, and the whole was over for the time. There was no regularity in the recurrence of the paroxysms, though they usually took place when he was in a recumbent position, or when he suddenly changed from one position to another. About the first of September last, he had an attack of cholera morbus, which in a very short time reduced him to a pulseless state. He rallied, however, under the use of anodynes, astringents and stimulants, though the diarrhœa was never entirely checked. The evacuations from his bowels were passed without pain, and soon became purulent and bloody, as they had often been before. He took no nourishment during two whole weeks, and finally sunk from mere exhaustion.

The body was examined ten hours after death, in the presence of several gentlemen, physicians and others. The emaciation was extreme, the forms of the vertebræ being distinctly visible through the abdominal parieties. This in fact, had been the case for several days before death. The sternum being removed, the ribs on the left side were cut away as low down as the adhesions of the soft parts would permit. The upper portion of the lower lobe of the left lung was in a state of complete hepatization, and was attached to the ribs by very strong, firm adhesions, to the distance of about two inches, surrounding the opening through which the ball had passed. These adhesions being divided as close as possible to the surface of the ribs, disclosed an opening in the lung, communicating externally with one between the fifth and sixth ribs, and extending upwards and backwards through the substance of the lung, in the direction of the spinal column. The fifth and sixth ribs were contracted together by firm bony union. The ball, in passing between them, had taken away about one half of the breadth of each rib, leaving a circular hole, after nature had performed her work, through which the end of the little finger could be passed without difficulty. Pursuing the dissection, the lung was found strongly adherent to the fifth and sixth ribs, at their junction with the spinal column, the place at which the ball had passed out. A portion of the sixth rib at this point had been carried away by the ball, and was mistaken at the time of the accident, for a portion of one of the vertebræ. The openings in this vicinity were all closed by a firm cicatrix. It will thus be seen that there existed a cavity in the substance of the lung, extending in the direction of the fifth and sixth ribs, closed posteriorly and superiorly, and communicating anteriorly and inferiorly with the circular opening in the ribs. Upon introducing the finger into this cavity, a foreign body of some kind was discovered. The lung being removed and the cavity laid open, it was ascertained to be a smooth firm substance somewhat in the shape of a silk-worm, though of what it consisted none of those present were able at first to determine. Being soaked in water, it was gradually spread out, and proved to be a piece of coarse home-made linen cloth, evidently the patch of the bullet, about two inches and a half in length by two inches in width, which had been rolled into the shape in which it was found by the action of the lung. The linen retained the marks of burnt powder on its edges, and was in a state of the most perfect preservation. The cavity which contained this roll of cloth was lined with a smooth but firm membrane, and had opening into it two or three small bronchial tubes, one of which was dilated at its mouth very much into the shape of a funnel.* This dilatation was no doubt caused by the end of the roll of linen becoming engaged in it, and its presence there producing and keeping up irritation of the bronchus, will satisfactorily account for the violent and long-continued paroxysms of cough. The natural effect of the action of the lung would be to keep it in its situation until relaxation from exhaustion took place, when it would be disengaged by the mere force of gravity. This will also account for the absence of expectoration during the continuance of the paroxysms, and the facility with which it was effected as soon as the paroxysm was over. As long as the linen was driven by the action of the lung into the funnel-shaped opening, it acted as a stopper, and prevented the entrance of the pus; as soon, however, as it was removed, the pus flowed of its own accord into the bronchial tube, and was expectorated with the slightest exertion.

It would be idle to speculate on the facility with which this piece of linen might have been removed from its situation in the lung. To have done this, it was necessary in the first place to ascertain its presence, and although the case was examined by some of the most eminent men of the profession, in different parts of the country, I have yet to learn that the presence of a foreign body in the lung was suspected by any one of them. The stethoscope disclosed nothing that might not have been reasonably anticipated from the general history of the case. The interesting *fact* is established by this case, that a foreign body may occupy a situation in the substance of the lung during a period of twenty-five years, without causing death. The right lung and the remaining portions of the left, were in a healthy state. The stomach was enormously distended, and its mucous coat very much thickened and corrugated. Its general appearance was very similar to that of the skin of the face. With the exception of a small patch of inflammation near the pylorus, it presented no indications of recent disease. The small intestines were healthy throughout their whole extent. The mucous membrane of the colon was thickened and corrugated in a manner similar to that of the stomach, and exhibited along its entire track, innumerable small ulcers, surrounded by blue elevated edges. No indications of recent inflammation. The other organs presented nothing abnormal.

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* [The preparation has been presented by Dr. Houston, to the Wistar Museum of the University of Pennsylvania.—Editor.]

Art. VI.—*On the Inability to distinguish Colours.* By Pliny Earle, M. D., Physician to Bloomingdale Asylum for the Insane.

In the European journals of science a number of cases have from time to time been reported of an inability accurately to perceive and discriminate between different colours, in persons whose visual organs, in all other respects, both of organization and function, appeared perfectly normal. In the *American Journal of the Medical Sciences* for August, 1840, Dr. Hays, in connection with his report of the unique and very interesting case of Mary Bishop, published the result of an analysis of these cases, by which it appears that there are several gradations in the extent of the defect in question. A philosophical arrangement is thus established which, being founded upon facts, must be permanent; although there is a possibility that future observations may modify it in some respects.

The object of this paper is, first, to report a number of cases which have come within the knowledge of the writer, and most of them under his own observation, but none of which have hitherto been reported; secondly, to substantiate and further illustrate some of the peculiarities attendant upon the physiological phenomenon under discussion; and, thirdly, to point out other peculiarities which, if heretofore observed, have not been mentioned by any author whose treatise upon the subject has been examined by the writer.

§ 1st. *Cases hitherto unpublished.*

1. R. M.—An elderly gentleman who, for many years, and from conscientious motives, dressed in drab; but while all the other external garments were of this colour, his cravat was invariably red.

2. Z. G.—A gentleman who could not distinguish between red and green.

3. U. K.—A young man who, at the age of twenty-five years, first discovered that he could not discriminate between several colours. He thought that a bright scarlet tape exactly corresponded in hue with a steel-blue ruler.

4. * *—A preceptor of an academy in the interior of Massachusetts. At the time when it was customary to wear bows of ribbon upon the lower extremities of the pantaloons, he attended a *soirée* with red bows upon blue pantaloons.

5. Mrs. A., of the county of Worcester, Massachusetts. I have never seen this lady, but from anecdotes illustrative of her defective perception, I am induced to believe that there are but two or three colours which she can accurately distinguish.

6. C. D.—A gentleman to whom red, green, brown, &c., appeared identical. His defect was not discovered until he was nearly forty years of age.

7. J. W., aged 35 years. It is said that he can perceive but one colour in the rainbow.

8. J. M., of Salem, Massachusetts. I was passing a few weeks in the country, during the early part of summer, and this gentleman, at that time seventeen years old, stopped, with his sister, at the same place as myself. I one day accompanied him upon a long ramble, during which we arrived at a place abundantly prolific of the winter-green, the *Gaultheria procumbens* of the botanists. The berries were as numerous as the leaves, so that one would have believed that no person, unless he were remarkably short-sighted, could stand even at the distance of ten feet without beholding them in myriads. Being fatigued, we sat down in the midst of them; but I soon perceived that my companion in gathering them, was obliged either to place his head very near the ground, or take hold of the leaves with one hand and feel under them with the other. Yet his eyes were not myopic. Immediately suspecting that his difficulty arose from an inability to distinguish colours, I picked some of the leaves, both red and green, of the Gaultheria, and with these, the berries, grass and other leaves, made a series of comparisons and contrasts sufficiently apparent to ordinary vision, but they were all imperceptible to that of my companion.

Upon returning to the house, and when in company with his sister, I placed a bright scarlet bandanna handkerchief upon a green table-cover, and asked him the difference in colour of the two. He asserted, most positively, that they were alike, to the utter astonishment of his sister, for neither she nor any of his family had ever suspected his defect.

9, 10. Two gentlemen, one in the city of New York, the other in one of the towns upon the Hudson river. They cannot distinguish between red and green. Farther than this, I am unable to describe their cases.

Besides these, *twenty-one* cases have come within my knowledge, a more elaborate notice of which will be given in another section of this article. The following account of one of them, written by the gentleman who is the subject of it, is more appropriately inserted in this connection.

"The general appearance of the rainbow, to me, is that of an object striped with three colours, yellow, orange and blue, gradually blended into each other, and themselves varying in their shades. I am unable to say whether, with a good prism, I could, using care, distinguish and mark seven distinct colours produced by it.

"As a general rule, however, it seems true that the difference between me and others, is more a want, on my part, of a quick and vivid perception of distinctions, rather than an absolute inability to discern them; for I rarely find two colours which appear different to others placed in juxtaposition, without my being able to perceive that they differ from each other. Yet the impression upon my mind is so imperfect, that, on seeing them again, at least, in some cases, I might be unable to give their respective names correctly. In some few instances, where colours are really different, perhaps I might not discern that difference if they were placed side by side. This, however, would be where the ground colour of both was the same, but one of them slightly tinged with red, such as pale blue and lilac of about the same depth of colour, or deep blue and violet.

"I can always distinguish correctly a full blue, a scarlet, or yellow, and generally orange, also, if near my eyes and examined with care. *I can discern yellow and blue of moderate depth at a great distance; but at any considerable distance I might not know whether a red was really a red or a deep green, brown, or olive.* I cannot, in general, know whether some olive cloths are really olive, or brown; but there are some browns that I can be sure of as being of that colour. *I cannot see red apples, or red cherries, or red strawberries, at any considerable distance, so as to distinguish them from the foliage; or, where I do distinguish them, it is not so clearly as I see the green ones.*

"Red, I think, appears brighter and plainer to me by candle-light, than in the day; so does blue, but yellow more faint than by daylight. I sometimes have mistaken a light green for a drab. The red which has some mixture of yellow is more vivid to my eyes, that which is crimson, or nearly so, resembles blue to some degree. Of the three principal colours, yellow is most distinct. All colours are agreeable to me, though I suspect red is less so than to people in general. Those red flowers which have a tinge of either yellow or blue, are, I think, more pleasing than those which are of a pure red.

"In the vast variety of compound colours, where there is a slight predominance of blue over red, I am unable to tell which predominates, and, of course, am liable to miscall the names. I find, however, that my perception of shades has improved by practice, *as it has of musical notes, in which I was deficient*, and I am disposed to think that, with application, I might perfect myself so as to be rarely mistaken."

Before proceeding to another section, it is proper to remark that of the *twenty-one* individuals whose cases are alluded to above, but *fifteen* are now living, and these are so widely scattered that it has been impossible for me to make a series of similar observations in their cases. I believe, however, that I am warranted in saying, that, in every instance, there was an inability to discriminate between red and green.

The irides of the person whose account of his own case is just given, are light, blue-mottled with white. Those of his brother, who has the defect, are blue with an imperfect band, or "ray," of a light bistre colour surrounding the pupil. Those of one of the two nephews of these men, who have the defect, are gray with a band around the iris similar to that just mentioned, though somewhat darker; and those of the other nephew are blue. In one of the cases published by Dr. Nicholl, it is said that the "eyes are gray, with a yellow tinge around the pupil;" and in a case recently reported by Dr. Boys de Loury, the irides were "light blue interspersed with yellow spots towards the centre." In one case that I have examined, the irides exactly corresponded with those last mentioned.

§ 2. *Peculiarities heretofore observed.*

a. The inability to distinguish colours is hereditary, and

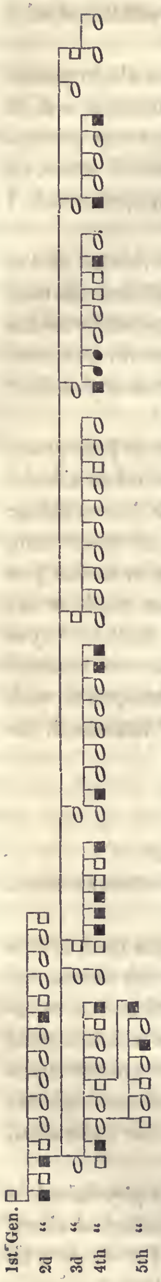
b. When thus entailed, it sometimes overleaps one generation or more.

c. Males are more frequently affected than females.

a. In several of the cases reported in foreign publications the truth of this proposition is demonstrated; but in none of their families did the peculiarity prevail so extensively as in that of which the author of this article is a member. My maternal grandfather and two of his brothers were characterized by it, and among the descendants of the first-mentioned, there are *seventeen* persons in whom it is found. I have not been able to extend my inquiries among the collateral branches of the family, but have heard of one individual, a female, in one of them, who was similarly affected.

For the purpose of clearly illustrating the prevalence of this physiological peculiarity in the family, I have prepared the subjoined genealogical chart. Males are represented by squares and females by circles. For those who cannot distinguish colours the squares or circles are wholly black.

The chart includes five generations. Nothing is known of the first generation, in regard to the power of perception in colours. In the second, of a



family consisting of seven brothers and eight sisters, three of the brothers, one of whom, as before mentioned, was the grandfather of the writer, had the defect in question. In the third generation, consisting of the children of the grandfather aforesaid, of three brothers and four sisters, there was no one whose ability to distinguish colours was imperfect. In the fourth generation, the first family includes five brothers and four sisters, of whom two of the former have the defect; in the second family there was but one child, a daughter, whose vision was normal; in the third there were seven brothers, of whom four had the defect; in the fifth, seven sisters and three brothers, of all of whom the vision is perfect in regard to colour; in the sixth, four brothers and five sisters, of whom two of each sex have the defect; in the seventh, two brothers and three sisters, both of the former having the defect; in the eighth there was no issue, and in the ninth there are two sisters, both of them capable of appreciating colours.

Seventeen of the persons in the fourth generation are married, and the whole number of their children is fifty-two. Many of the latter are very young, some of them not living, and as the defective perception has hitherto been detected in but two of the families, those alone are placed in the chart as the fifth generation. In one of them, consisting of three brothers and three sisters, one of the brothers has the defect, and in the other, a male, an only child, is similarly affected.

b. The overleaping of one generation by the hereditary peculiarity of vision, is satisfactorily shown by the chart; in which it appears, as has been mentioned, that there are no cases in the third generation. Furthermore, in the cases of the two males of the fifth generation, it will be perceived that neither parent nor grandparent had the defect; so that there was an interval of *two* generations between the manifestations of that defect.

c. That males are more frequently deficient than females, in the power of distinguishing colours, is manifestly confirmed by the cases mentioned for the first time in this article. These cases are *thirty-one* in number, *twenty-seven* of them being of males and but *four* of females. Of the twenty persons represented in the foregoing chart as having the defect, *eighteen*, or nine-tenths of the whole are males. This disparity of numbers of those affected in the two sexes is no less strikingly exhibited by the ratio between the whole number of persons of either sex and the number of those who have the peculiarity. Thus, in the chart, there are eight special families in which the defect prevails, one in the second generation, five in the fourth, and two in the fifth. These families include *thirty-two* males, of whom *eighteen*, or nine-sixteenths of the whole, have the defect; and *twenty-nine* females, of whom *two* or about one-fifteenth of the whole, also have it.

§ 3. *Peculiarities hitherto unnoticed.*

a. The power of accurately distinguishing colours varies at different times in the same individual.

b. The inability to distinguish colours is not unfrequently connected with, or accompanied by, a defective power of discriminating between musical notes.

a. In the man represented as the youngest of the first family of the fourth generation in the chart, it would appear that at times the function of the "organ of colour"—to presuppose the truth of an undemonstrated theory—were performed with nearly as great a degree of perfection as in persons who can make the most delicate chromatic distinctions, while, on other occasions, the defective action of that "organ" involves the individual in the most absurd mistakes. In describing a domestic fowl, he spoke of it as "the yellow hen with a blue tail," and, some years afterwards, being rallied upon the subject of his singular ornithological discovery, he declared that "if the tail was not *blue* it was *pink*."

It was evident that the colours which this young man usually confounds appear to him by candle-light much more nearly as they do to other people, than when they are seen by the light of the sun. The same is true in regard to red and blue, in the person whose account of his perceptive powers of colour is given in the foregoing pages. The explanation of this is probably found in the fact, that the light of our artificial means of illumination is much more yellow than that of the sun, and gives to the colours ordinarily unrecognized a certain degree of its own hue—a hue which is perceptible to all who have the defect, excepting such as come under the "worst degree" in the classification of Dr. Hays.

b. In the foregoing account, which is related in the language of him who is the subject of it, it is stated that the writer's perception of musical notes was "deficient"—I may add, from observation, that it was *very* deficient—but, as the writer observes, it has been improved by attention and practice. The whole family, of which the chart has been exhibited, is probably no less generally characterized by a defective musical ear than an imperfect appreciation of colours. Several of the individuals comprised in it are utterly incapable of distinguishing one tune from another. In some of the branches, however, where there was a high degree of musical talent *in the family of the other parent*, several of the individuals inherit it, and, among them, two who cannot distinguish colours. They are remarkably quick in "catching a tune."

A gentleman who has the general defect under discussion, and whose case is included in the "thirty-one" herein mentioned, is a well-known professor in one of the metropolitan medical schools of the United States. In him, the total inability to discriminate between musical sounds is coexistent with the defective perception of colour. Notwithstanding the absence or imperfection of the powers mentioned, powers which it would appear are essential to the true poet, the poetical talents of this gentleman are such that, had he sacrificed unto them the truths of natural science, he might undoubtedly have attained a distinguished rank in that department of literature.

Another of the gentlemen whose case of defective perception of colours is herein noticed, is generally acknowledged as one of the first and greatest of American poets now living. He, also, is unable to distinguish one tune from another; yet his poetry is not deficient in the requisites of perfect cadence, harmony and rhythm. In regard to colour, his defect is such as is described in the "worst degree" of the arrangement of Dr. Hays. He says that previously to the time at which he ascertained this peculiarity of his vision, he always wondered that people should talk of "glorious sunsets," and "beautiful sunsets," inasmuch as he could detect neither "glory" nor "beauty" in them. The kaleidoscope of nature and the harmonicon of art are the Utopias of his mind. The magic hues developed by the prism, the iridescence of shells and minerals, the inimitable colours of the beasts and birds of tropical climates, the verdure of the fields of spring, the splendour of the autumnal foliage of the forests, the myriad-hues of flowers, and the realm of beauty which springs, as sprang Minerva from the brain of Jupiter, from the genius of the artist,—all these, it would appear, are, comparatively, "as a sealed book" to him. Yet from his writings no evidence of this can be detected. The *poet* throws his gossamer veil of ideality before the vision of the *man*, converting a sombre world into a paradise like that of the Persian. Seated upon the borders of Helicon, he looks abroad upon a universe transformed by imagination and glowing with all the colours of a phantasmagoria. The iris of heaven lifts its expansive arch in hues as varied and as vivid as when first placed there, "to establish a covenant" between God and man; the sun descends now invested with the mellow tints of the skies of Italy, and now surrounded by clouds emblazoned like those which attend its setting in America alone; fields are clad with a carpet of emerald, and flowers blossom with all the diversity of colouring that ever decked them in the gardens of the East; birds spread to the wind pinions as gorgeous as those that wave over the Amazon or the Ganges, and the mineral world glitters with the concentrated beauty of amethyst, topaz, beryl and all the precious stones adorning the foundations of the wall of the New Jerusalem which was revealed unto the apostle in Patmos.

? Whittier

This remarkable and apparently irreconcilable union of exalted poetical genius with an inability to distinguish either colour or tune, must be considered as one of the most wonderful of psychological phenomena. To analyze the mind thus constituted would task the acumen of the phrenologists and the metaphysicians.

Before closing, I wish to direct attention, for a moment, to the question, "Whence arises the inability to distinguish colours?" There are persons who object to this proposition as being irrational and absurd. They maintain that there is no standard for the perception of colours, no criterion by which, in comparing the powers of two individuals, we are enabled to say which approaches the nearest to perfection, or which is the most nearly accurate. Indeed, they go further, and assert that there is no evidence of the identity or similarity of the impression of any colour upon the minds of any two individuals whose powers of chromatic distinction are considered perfect and normal;—that colour which is blue to the "mental vision" of one may be green, red, or yellow to that of the other; and so of any two colours whatever. Strictly speaking, the position of these objectors is true. No one can describe the mental perceptions which are received through the organs of vision, excepting by the use of conventional terms, the signification of which, as applied to the abstract nature and quality of the perception, may differ in the estimation of different individuals. Colour, considered only in reference to its existence in the mind, is ideal; and no one can "give colour to an idea."—Although A and B, whose perceptive powers are perfect in regard to colour, agree in calling a lemon yellow and the grass green, yet it is impossible to prove that to A the hue of the grass is not the same as that of the lemon to B, and *vice versâ.*

No true philosopher, however, would resort to this argument. It is specious but unsound; and he who would rest upon it must inevitably become involved in a difficulty with reference to many departments of science, from which he could hardly extricate himself otherwise than by the subterfuge of the doctrine of Bishop Berkeley, that "all matter is ideal." It cannot be denied that certain rays of light, impinging upon the retina, produce an effect which, transmitted to the sensorium, whether modified or not in its passage through the optic nerves, gives an impression or perception of colour that the mass of mankind are consentaneous in calling "red."—As the anatomical structure of the organs concerned in the process, and also the functions of those organs are, if normal, identical in different individuals, it is rational to conclude that the results of their action will be the same.

The several theories promulgated by different authors as explanatory of the inability to distinguish colours may be resolved into two classes:

1*st.* Those which place the cause of the defect in the apparatus of vision; and,

2*d.* Those which suppose it to be in the organ of perception. We are disposed to give preference to the latter; but we have nothing upon the subject to add to the excellent treatise of Dr. Hays, further than to quote, without adopting its doctrines as the cause of the defect in question, the following extract from the *Annales Medico-Psychologiques*, for Jan., 1844.

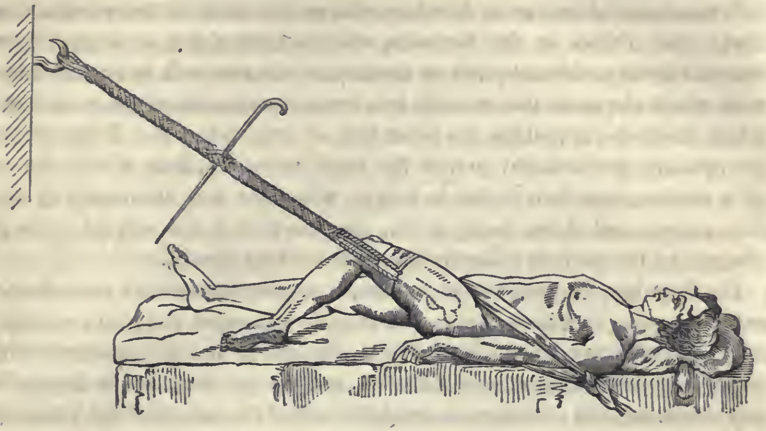
"M. Chevreuil has shown that there is a harmony and a system of laws in colours as well as in sounds; that there are false colours, as there are false notes, which shock sensitive persons; and that there are some colours which, like certain notes, cannot accompany each other without proving exceedingly offensive." It is unnecessary, then, to regard the incapacity to distinguish colours as the result of an alteration of the retina, or of the optic nerve, but as often being the effect of a predisposition, natural or acquired.

Art. VII. *Dislocation of large joints reduced by power derived from twisted rope.* Communicated by D. Gilbert, M. D., Professor of the Principles and Practice of Surgery in the Med. Dept. of Pennsylvania College, Philadelphia.

Every practitioner knows that the reduction of luxations of the large joints cannot easily be accomplished without the steady, equable and continued traction furnished by the careful and patient use of the pulleys. These mechanical appliances often cannot be obtained when needed, in the treatment of such accidents; and the power resorted to then, is that which may be furnished by awkward and unskilful assistants. Under such circumstances, the efforts at reduction are protracted, unsteady, and, in most instances, unsuccessful; great force is applied by sudden starts and irregular jerks, which, with bleeding, warm baths and sedative medicines, exhaust the vital energies of the patient, probably without reducing the luxation; and cases are not wanting in which serious additional injury has been inflicted upon the parts concerned, by such procedures.

The power furnished by *twisted rope* answers every indication, requiring extensive power, as perfectly as the pulleys, and is indeed preferable on account of its simplicity and availability in every possible situation, enabling the surgeon even to dispense with assistance, should that be necessary. The credit of first using this power in such cases, is due to my friend P. Fahnestock, M.D., of Pittsburgh, Pa. He was led to its trial by necessity, and the result was so satisfactory that he has resorted to it in every case which he has met with since.

The mode of application is as follows:—place the patient and adjust the extending and counter-extending bands as for the pulleys; then procure an ordinary "bed cord" or "wash line," tie the ends together, and again double it upon itself; then pass it through the extending tapes or towel, doubling the whole once more, and fasten the distal end, consisting of four loops of rope, to a window sill, door sill or staple, so that the ropes are drawn moderately tight; finally, pass a stick through the centre of the doubled rope, dividing the strands equally by it; then, by revolving the stick as an axis or double lever, the power is produced, precisely as it should be in such cases, viz:—slowly, steadily and continuously, which, with the aid furnished by the surgeon to the immediate seat of lesion, and to the system in general, cannot fail to conduct the case to a happy issue. The following cut, taken from Druitt's Surgery, modified by substituting the twisted rope for the pulleys, illustrates the manner of applying this power.



Art. VIII.—*Removal of seventeen inches of the small Intestines—Recovery of the patient.* By A. Brigham, M. D., Superintendent of New York State Lunatic Asylum, Utica.

Dear Sir,—The following case is so remarkable, that I wish to make it known to the medical profession through your widely-circulated Journal.

Mrs. S. W., of Wyoming county, in this state, was admitted into this asylum as an insane patient, June 2d, 1843, aged 38. She was a married woman, and the mother of five children, the youngest of which was then two years old. She had been deranged about three years, though this was a second attack, as she had been insane for about one year in 1831-2. During her first attack, she stabbed herself in the abdomen with a dull knife, at two different times, but did not wound the intestines.

When she came to this asylum, her bodily health was good, though she was disposed to eat too much, and was subject to paroxysms of high maniacal excitement about once a month. At other times, and in fact most of the time, she was pleasant and disposed to laugh *long* and *loud*—not the laugh of the idiotic and demented, but very heartily, and in such a manner as to dispose others who saw her to join with her, though no one knew what gave rise to her apparent merriment. This was the only striking peculiarity of her case.

She remained without any material change through the year and until the next summer, when she began to lose flesh, ceased to laugh, and appeared melancholy, though her mind seemed somewhat improved. She now began to exhibit some tendency to injure herself, by striking her head against the wall and by choking herself. We were somewhat fearful of her committing suicide, and she was placed in the upper story of the building where she could be carefully watched, and where usually there are no instruments with which patients can hurt themselves.

No material alteration in her case was noticed until October 24th, when about nine o'clock in the forenoon, she obtained a pair of large *scissors* that had been accidentally left in the hall, which she took to her room, and with which she made two wounds into her abdomen, one about an inch and a half above the umbilicus, the other half an inch below it. From the upper opening she took out part of the small intestines, from which she cut off a portion, *seventeen inches* in length, when she was discovered by another patient, and alarm being given, she was forced, not without some resistance on her part, to cease from further injuring herself.

Dr. Buttolph, the assistant physician, was near and saw her immediately, and discovering that the intestine was entirely separated, and also a considerable portion of the omentum, and that one end of the intestine was withdrawn into the abdomen, concluded the case would soon prove fatal under any treatment, and therefore returned the end of the intestine that protruded into the abdomen, stiched up the wounds carefully, and covered them with adhesive plaster,—applied a bandage around the body, gave her an injection of laudanum, and directed an attendant to remain with her constantly. While thus dressing the wound she vomited, but did not appear to have much pain.

On examining the detached intestine, which she had cut into in several places, it was found to contain a small quantity of fæces, and weighed *one ounce and one drachm;* the omentum, which was separated from it, weighed *one ounce and two drachms.* The ends of the intestine were ragged, and had been cut off obliquely. For a few days she was disposed to vomit and was not able to retain any thing on her stomach but a trifle of water. Injections of laudanum and broth were administered, and she was kept constantly quiet. After a few days she called for food and was able to retain a very little, and in about ten days she asked, "if she had not ought to take some physic." She was reminded of the accident, and told that it would be improper to give her physic; but she did not appear to think so, and said she "felt as if it would do her good, and that she ought to have some."

She continued without much change, very quiet by aid of injections of laudanum, eating a little several times in the day, and vomiting occasionally, but without any marked tenderness or inflammation of the abdomen, until the 26th of November, *thirty-three* days after the accident, when she had a small discharge from the bowels of hardened fæces, and on the next day a copious one. This she said gave her great relief, and from this time she began to improve. The wounds had already healed, and she was soon able to walk about. Since then she has continued to have regular evacuations from the bowels, though there is rather a tendency to diarrhœa, for which she often takes laudanum.

She now eats tolerably well, though inclined to vomit when she eats heartily. She is able to be about the house, and sews and knits some, and is as well as she was for several weeks previous to the injury. She is, however, still feeble, and does not gain flesh, but is calm and quiet, though her mind is in rather a demented state.

I refrain from any remarks, and have no explanation to give of the case other than is obvious to every one.

ART. IX.—*Foreign Body in the Trachea—Tracheotomy—Cure.* By CHARLES HALL, M. D., of Burlington, Vt.

I WAS called, with Dr. Hatch, May 9th, 1844, to visit a small boy in this village, aged four years, who had sucked a piece of pipe stem, 1¾ inches long, into his windpipe, while holding and drawing air through it between his lips. The lad being alone when this was done, his relation of the circumstance soon afterwards was the only evidence we had, aside from the incessant coughing and suffocating effects attending the case, that a foreign body had been inhaled; and, although the symptoms indicated such an event, we made use of such precautionary measures as were suggested, not only to make ourselves sure the foreign body was really in the trachea, but to satisfy others that this was the fact. We several times introduced a probang into the stomach, applied sternutatories to the nose, and gave an emetic of Sanguinaria Canadensis, but all to no good effect. It being nearly night, and the friends strongly opposed to an operation, for they could not readily understand how cutting the boy's throat would save his life, we deferred any further proceedings until the next morning. At 8 o'clock next morning we were again with our patient, and found the alarming symptoms much aggravated. Every respiration was now performed with painful effort; the irritation was so concentrated that the little sufferer was enabled to place his finger over the spot where the pipe-stem seemed to be, it being near the top of the sternum on the right side. The boy being more than ordinarily intelligent for one of his years, I attempted to reason with him on the propriety of cutting into the windpipe, so as to be enabled to pick out the pipe-stem, urging that if it remained there it must surely kill him; that taking it out might save his life, and that this was the only mode of getting at it. This brief and simple argument seemed to influence the child favourably, and, after obtaining a reluctant consent from the family, we prepared for tracheotomy.

Having procured the assistance of some half a dozen hardy young men, to support the child and hold his limbs, and Drs. Hatch and Marsh to assist me, we placed a kitchen table in a favourable position, a man sitting astride at one end, with comforter and pillows to sustain the little fellow. After all was ready, on looking around for the boy, he was seen just escaping at the outer door. However cruel it may have appeared to him, he was forcibly brought back, put upon the table, and placed in a position for the operation.

His neck being fat and short, it became expedient to elevate it by a bolster beneath and to draw the head back over the bolster, to make room for the knife. When this was done, I made the incision through the skin and adipose substance from the os hyoides downwards to just below the thyroid cartilage, the lad all the while screaming, "Have you got the pipe-stem?" In making this incision I divided a vein of considerable size at the lower angle of the wound, which bled rather freely for some minutes. This was taken up, and a ligature applied by my assistants. The bleeding being arrested, and the trachea laid bare, I made a slight incision through its upper ring, when the air and spray burst from the interior. The child was now turned upon his left side, to prevent the oozing of blood into the trachea, and the perforation was immediately slit down with a probe-pointed bistoury, the length of the external incision being about 2½ inches. The integuments were now drawn apart with broad blunt hooks by Dr. Hatch, and search was made by Dr. Marsh for the foreign body with a probe, it not being thrown out, as is sometimes the case with lighter substances, by the forcible exit of air and phlegm in coughing. After some minutes search the pipe-stem was drawn out upon the point of the probe, it having sunk by its gravity into the right bronchus, where it was detected and extracted by the probe which had passed into its hollow. While this was being done, respiration was performed wholly through the artificial orifice, and, of course, the voice was completely hushed. The face and countenance exhibited a deep flush, with a sort of painful scowl, the eyes partly closed, and the features somewhat distorted; but the boy was now perfectly quiescent. Having removed the foreign body, the lips of the incision were drawn together by sutures and sticking plaster; but the mucous membrane of the bronchia, trachea and larynx had become somewhat thickened by the irritation, and for thirty-six hours afterwards a part of the breath was forced out between the stitches at each expiration. This could not be controlled or impeded without the most imminent danger of fatal suffocation. A dose of calomel was administered that evening, and the patient was well nursed by his friends through the night. Next morning a cathartic operation had been procured, and it was evident that the deposition of lymph in the part was arrested, for the breathing was less laborious, and all the alarming symptoms were relieved. A powder of nitre, ipecac., and a little opium was now directed to be given once in six hours, to allay the irritation and act as an expectorant. After two days this was discontinued, respiration having in a great measure become re-established. The child's recovery was speedy and complete.

REVIEWS.

Art. X.—*A Treatise on the Diseases and Special Hygiène of Females.* By Colombat de L'Isere. Translated from the French, with additions by Charles D. Meigs, M. D., Professor of Midwifery and Diseases of Women and Children, in Jefferson Med. Col., &c., &c. : 8vo. pp. 719. Lea & Blanchard, Philadelphia, 1845.

A Practical Treatise on the Diseases peculiar to Women, illustrated by cases derived from Hospital and Private Practice. By Samuel Ashwell, M. D., &c., &c. First complete American, from the last London Edition, with Notes by Paul B. Goddard, M. D., &c., 8vo.: pp. 520. Lea & Blanchard, Philadelphia, 1845.

Were we allowed to infer the progress of our knowledge in relation to any branch of medical science, from the rapid multiplication of works devoted to its consideration, we should certainly have much cause to congratulate ourselves upon our increased acquaintance with the pathology and therapeutics of those diseases which are peculiar to the female sex, for, upon few subjects have there been published, within the same period of time, a greater number of admirable treatises.

And we should not perhaps be altogether in error, in judging that, when a rapid succession of works make their appearance upon any given branch of medical science, not only is there a greater amount of attention directed to its investigation, but that there is in truth a constant addition of facts and observations being made in relation to it. For it is scarcely to be supposed that work after work would be published unless there existed a demand for them, or that any demand should exist if each succeeding publication added nothing to the store of our knowledge.

We believe that this will hold true, at least, in relation to the subject of the diseases of women. To the investigation of their pathology and treatment there has been devoted, within a short period, the closest attention of a number of practitioners in different parts of the world, whose means of observation fully enable them to arrive at correct conclusions,—and as a necessary consequence of these investigations, our acquaintance with the true character and diagnostic symptoms of the diseases referred to, and with the means best adapted for their prevention and cure, has been rendered far more full and accurate than it was a few years ago.

The two treatises, the titles of which we have given above, are among the latest and best that have appeared. They differ, it is true, very considerably in their scope and character. The first entering into a very full examination of every question involved in the several subjects embraced in it, and presenting an exposition of the various opinions advanced by the leading authors who treat on them: while the second aims at nothing further than to give to its readers a faithful account of the present state of our knowledge in regard to the pathology and therapeutics of the principal diseases incident to the female sex.

The treatise of M. Colombat is a learned and laborious commentary on these diseases—indicating very considerable research—great accuracy of judgment, and no inconsiderable personal experience. With the copious notes and additions of its experienced and very erudite translator and editor, Dr. Meigs, it presents probably one of the most complete and comprehensive works on the subject we possess. The treatise of Dr. Ashwell, though of a less pretending character, is sufficiently full and accurate, and, in many points of view, is perhaps better adapted as a guide to the student and young practitioner than the former.

M. Colombat commences his treatise with a well-written history of the physical, moral, and physiological changes which take place in females at the principal epochs of life. This excellent sketch forms a very appropriate and necessary introduction to a consideration of the pathological conditions of the female organism. To this chapter Dr. Meigs has added a short but very interesting exposition of the recent views that have been developed in relation to the functions of the ovaries, and the causes and uses of menstruation,—some judicious remarks on the quantity discharged at each menstrual period—and on the period of life at which the function ordinarily commences and ceases in different climates.

The second chapter of M. Colombat's treatise is devoted to an examination of the varieties of conformation, and surgical anatomy of the genital organs, and the sympathies of the womb. This is a highly interesting chapter,—an intimate acquaintance with the subjects embraced in it being essential to a correct appreciation of various important pathological states of the sexual organs of the female.

We apprehend that many, however, of the sympathetic influences referred by the author to the uterus, should more properly be ascribed to the ovaries, which are certainly to be regarded, rather than it, as the source from which the female derives her sexual characteristics, and probably many of her predispositions to certain forms of disease.

The third chapter treats of the manner of examining the female organs by the touch and by the speculum, and of the general indications thence derived. A careful study of this portion of the treatise will amply repay the student for the time spent in it—and may not be uninstructive even to the practitioner. The remarks of the author upon the physical investigation of the uterine organs might, it is true, have been extended, with great advantage, more especially to the student. The more important particulars in relation to the subject are, nevertheless, pointed out with sufficient clearness and accuracy.

These three chapters comprise what may be considered the introductory portion of M. Colombat's treatise—a portion, however, not the least important—the omission of which would have detracted in no slight degree from the completeness and value of the work.

In the succeeding chapter, the author enters upon a consideration of the general causes and classification of the diseases of females.

The general enumeration given by M. Colombat of the causes of the various genital affections in the female, are not obnoxious to criticism; but in the following statement there is a looseness of expression which should be avoided in a scientific work:—

> "As the womb," M. Colombat remarks, "is an organ upon which most of the impressions, both physical and moral, made in the female, are reflected, we ought to count among the most common causes of uterine diseases in great capitals, particularly in Paris, the insalubrious nature of the air, disregard of the

laws of hygiène, protracted vigils, cold and astringent cosmetic lotions for the vulva during or soon after the menses, the use of foot warmers, the abundance of exciting dishes, the immoderate use of ices and sherbet, and of coffee; great political excitements and commotions, secret manœuvres, illicit enjoyments, the distracting and oft-repeated emotions excited by theatrical representations, and the reading of works of fiction; jealousy, disappointed love, loss of fortune, domestic chagrin, joy too strongly felt, frequent fits of passion; and, in a word, all the violent passions and every species of mental shock."—p. 71.

All of the causes here enumerated, are well known to impair the health and produce disease in the female, and as a consequence, the functions of the uterus will become impaired, and even a state of disease may be induced in that organ; but not by the various physical and moral impressions enumerated being immediately reflected upon the uterus. The pathological rank and influence of the latter organ has, we are persuaded, been much overrated by writers on diseases of females; its disturbances of function in the intervals of gestation, at least, are, we suspect, the result very generally of morbid impressions made upon the ovaries, while its diseases are, in perhaps the majority of cases, produced by causes, mostly of a physical nature, which act directly upon it.

The change of life or the period when the menses cease to occur, is set down by the author as a frequent source of sexual disorders. No evidence, however, exists, that the female, at this period of life is in any degree more liable to disease than before; by more than one writer it has, on the contrary, been remarked that there frequently takes place a decided improvement in the general health and a greater exemption from disease when the so-called critical age in females is passed.

M. Colombat divides the lesions of the genitals into:—1. Lesions of form and development. 2. Lesions of situation. 3. Physical lesions. 4. Vital lesions. 5. Lesions of functions. And 6. Lesions appertaining to reproduction.

The first class comprising all cases of vicious conformation, whether congenital or accidental, of the sexual organs and their appendages; the second, all cases of displacement and deviation of the genito-urinary organs,—the third, all cases of lesion of continuity, and the accidental introduction of foreign bodies,—the fourth, the phlegmasia, the transformations, and all the pathological products and degenerations of texture,—the fifth, the neuroses, neuralgia, and functional derangement of the female organs of generation,—the sixth, the accidents, and all the sympathetic phenomena of conception, pregnancy, labour and lactation.

The treatise of Dr. Ashwell commences at once with a consideration of the pathology of the diseases of the uterine system. The affections peculiar to females he arranges into three great divisions. In the first, he places the functional, in the second, the organic diseases, and in the third, the affections of the pregnant and puerperal states.

The general remarks of Dr. Ashwell on the pathology of the diseases peculiar to the female, though upon the whole accurate, are very concise and superficial, and on this account unsatisfactory.

The first section of M. Colombat's treatise, devoted to a consideration of the malformations of the female sexual organs, is particularly rich in facts—it presents a very full exposition of the history, etiology, differential signs, diagnosis and treatment of the various primary and accidental occlusions of the uterine organs—and a very excellent account of the faulty conformations of these organs, whether occurring at birth or subsequently.

Cohesion of the labia, either partial or complete, is by no means of unfrequent occurrence—and the earlier it is detected and the cohesions destroyed, the better. The language of M. Colombat would appear to countenance the erroneous practice of deferring, in cases in which the occlusion of the vagina is only partial, and a free course is left for the urine, the separation of the coherent labia until a short time previous to puberty. Very few instances, however, occur in which there is the least necessity of deferring the operation. In the infant the destruction of the adhesion between the labia is much more readily effected than in after life. There is no necessity then of resorting to the bistoury as recommended by our author—we have in no instance failed in separating the labia by traction alone, or by the firm pressure of a probe upon the line of adhesion, and a similar experience is expressed by Dr. Zeis,* who has recently published a very sensible memoir upon this subject. Nor need we, in order to prevent a reunion of the divided surfaces, cauterize one of them, as advised by M. Colombat, with nitrate of silver; the simplest dressings, with due attention on the part of the physician, are all that is required.

Cohesion of the nymphæ is still more frequently met with than cohesion of the labia—the same remarks may be made in reference to the period and manner of operating in this as in the other.

To the author's remarks on the unnatural development of the clitoris, a most singular and, so far as our reading extends, unique case of enlargement of that organ, is appended by Dr. Meigs, under whose notice it fell.

The editor enters his protest, and we think very properly, against the direction given by M. Colombat in cases of morbid contraction of the female urethra to enlarge it by means of the knife:—"In all such cases," he remarks, "when the most delicate probe can be made to pass, the difficulty is easily to be overcome by the daily use of the bougie; beginning with one of a small size, and gradually enlarging it till the orifice has acquired a proper magnitude." Our own experience affords ample proof of the accuracy of this remark.

In a somewhat extended note, Dr. Meigs has also shown, that in the treatment of congenital narrowness or accidental stricture of the vagina, graduated dilatation is all that is required—the use of the knife, as advised by the author, being unnecessary and improper. In illustration of this a very interesting and instructive case is given by Dr. Meigs at page 101, *et seq.*

In treating of the lesions of situation of the female genito-urinary organs, M. Colombat considers first the prolapsus of the uterus. This subject is one of great importance, as well from the frequency of its occurrence, the difficulty of remedying it by the ordinary plans of treatment, and the discrepancy of opinion which exists among distinguished practitioners in regard to the use of the pessary, and the proper form and material for the latter.

M. Colombat gives to the subject all the attention which its importance demands. In regard to the different degrees in which the uterus may be displaced in a downward direction—the mode of detecting each, and the various symptoms to which they give rise—the chapter devoted to the consideration of this form of displacement will be found very complete and satisfactory. His examination into the causes of prolapsus uteri are by no means, however, of the same character. These are simply enumerated—and it is very doubtful whether several that are included in the list can, with propriety, be considered as either predisposing or occasional causes of the disease.

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* See No. of this Journal for Jan. 1845, p. 164.

In a note, Dr. Meigs briefly examines the pathology of this malady, and has, it appears to us, indicated the true cause of the frequency of falling of the womb, and the one which, in perhaps the majority of cases, predisposes to its occurrence. Denying that the lateral and round ligaments can have any agency in preventing the descent of the uterus, and consequently that the latter cannot be the effect of a relaxation of these parts, he remarks, that the diaphragm has an antagonist force in the floor of the pelvis, which is partly muscular, and that where that muscular floor retains, together with the other tissues of the perineum, its full power and energy, there can be no prolapsion of the womb.

> "The repeated distensions and dilatations to which the floor of the pelvis is subjected in labour, cannot but tend to debilitate it, and overcome its power of resisting the antagonization of the diaphragm and abdominal muscles, and as the parts that sustain the womb depend for their own support on the firmness of the tissues composing the pelvic floor, it is clear that the womb may go down with them and it. But let it be observed, that the pelvic floor itself is dependent, not merely upon its textural contractility, but on the muscular power of the levator ani muscles—muscles which relax in labour, and in defecation, by a spontaneous power of relaxation, in order to admit of the descent, and protrusion of the pelvic floor in question, and which is restored to its proper level, and drawn upwards, and kept there by the sole power of the levator muscles. Hence it is, I think, clear, both by reasoning, and by observing clinically the facts in the case, that the weakness and loss of power of the levator muscles have much to do with the pathology of prolapsus uteri.
>
> "It will not, I suppose," he adds, "have escaped the observation of all persons of experience, that in bad cases of prolapsus, the perineum is thin, feeble in its tension, and that the whole perineum is at a lower level than in those who do not labour under prolapsus.
>
> "It is essential," he further remarks, "to observe that weakness and prolapsion of the womb are apt to follow bad labours, and to be coincident with the signs of general debility of the muscular apparatus of the whole body. It is not, indeed, met with, except very rarely, in the strong, active, muscular subject, and that even in these subjects, the prolapsion is rather a state of immobility, or fixedness of the womb at a low level, than a real prolapsus."—p. 124.

If the above views of Dr. Meigs be correct, and we feel persuaded that they will be fully borne out by correct reasoning upon the facts of the case, and by the results of clinical observations, our views in regard to the means of prevention and cure of prolapsus uteri must become greatly modified, and our success in its removal increased, while the cause of the so general failure of all efforts to sustain the uterus in its proper position by pessaries, and other mechanical means, is at once rendered evident.

The entire subject of the pessary, the various forms that have been given it—the advantages and disadvantages of each, and the various accidents connected with the presence of the pessary in the vagina—are all very fully considered by M. Colombat, and some judicious remarks are added by the editor, on the means of prevention and cure of prolapsus uteri. Referring again to the views advanced by him in a note to one of the preceding divisions of the chapter under consideration—Dr. Meigs observes that—

> "In view of the nature of the support by means of which the womb retains its natural situation in the pelvis, it seems to me, every case of prolapsion or procidentia of the womb ought to be regarded as an affection of the vagina, and that the indication of cure confines itself to the restoration of the vagina, and not of the womb as the pathological object."—p. 136.
>
> "It hence appears, that in cases of prolapsus uteri, one great object to be held in view is the restoration to the levators of their lost or diminished contractility."—p. 138.

After referring to the danger of prolapsus after long, tedious or instrumental labour, from which the female is very apt to rise with weakened levators, with the rectum feebly supported, and the uterus consequently lower than it ought to be, Dr. M. adds, that

> "In fact, very few women are to be met with in whom, after giving birth to one or two children, the womb is not found very low in the pelvis. * * * Under this view how necessary does it seem that such patients should avoid all causes of tenesmus, such as costiveness on the one hand, and drastic or other harsh purgatives on the other, pessaries of a bad construction, of too large a size, strangury, debilitating discharges of leucorrhœa, and, in short, whatever might serve to promote the descent of the perineal texture, the descent of which is incompatible with a due elevation of the organs, whose support in situ naturali absolutely depends upon them.
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> "I beg leave to remark that, in pursuance of a plan of treatment by rest in a horizontal posture very long continued, the muscular force of the patient is not unapt to be exhausted, and that it is not unusual for persons subjected to such treatment, to rise from a confinement to the bed of several months' duration, not at all amended in health, and consequently, greatly disappointed, if not injured by the treatment. In such patients, a method calculated to invigorate and enhance the muscular energies would be far more likely to produce a cure which would coincide with a rise or elevation of the perineum. Hence, I have, in many instances, found my patients to recover perfectly, when I have counseled them to take exercise, to be much in the air and light, to live upon a nutritious diet, to take wine and malt liquor, and to disregard, as far as possible, the painful or annoying sensations proceeding from the prolapsed state of the womb; assuring them, that probably, in proportion as their general health should improve, so would the local disorders under which they suffered gradually lessen, and finally disappear. I have seen a lady this day, who, at the age of forty-nine years, informs me that she has scarcely been a day or night without a pessary for fourteen years past, an instrument for which she has not the least occasion, and perhaps never has had.
>
> "In making these remarks, I desire to apply them to cases where the use of the pessary is a question of doubt, for, beyond dispute, there are many women who can enjoy neither comfort nor health without the aid of these remedies, which, as our author states, are sanctioned by the common consent of the profession for ages past."—pp. 138–9.

Dr. M. has, in the last quoted paragraph, conceded, perhaps, too much to the common opinion entertained by medical men, that the use of the pessary is necessary to retain the uterus in situ in cases in which it has become prolapsed—we candidly confess that we can conceive of but few cases in which the instrument is necessary or can act beneficially, while we have known, in numerous instances, the most decided relief afforded to the patient, and the prolapsus entirely removed by a long-continued hygienic and remedial treatment adapted to restore the tone and general energies of the system.

In Dr. Ashwell we have a warm advocate for the use of the pessary—he has examined some of the arguments that have been brought against it, and said every thing that can be said in its favour. He considers that it would stand alone as a remedy in cases of prolapsus uteri, if it were universally applicable, or if its employment were never attended with inconvenience. He has known many instances, he states, of its employment for several months, no other treatment having been resorted to, where a perfect cure has been obtained; so perfect, indeed, that on removing the pessary, the descent has not again taken place. We may remark, that the views of Dr. Ashwell in relation to the pathology of prolapsus uteri are somewhat vague, and unsupported by correct physiological principles.

We pass over the account given by M. Colombat of anteversion and retroversion of the uterus—merely remarking that the reader will find appended to it a very interesting note by the editor.

The curvature, obliquity and inversion of the womb are very fully considered—and a very interesting exposition is given of the present state of our knowledge in regard to the pathology, diagnostic phenomena, and treatment of each.

Dr. Meigs, in a long note which he has added to the author's account of inversion of the uterus, offers some remarks upon spontaneous reposition of the organ after this accident—he having met with two cases in which the womb not only recovered spontaneously its proper position, but in which the patients became afterwards pregnant—showing that the extremest degree of inversion is not necessarily the cause of lesions to the ovaries, tubes and other organs connected with reproduction, so great as to deprive them ever afterwards of the reproductive power.

In a second note, Dr. Meigs has pointed out a very grave error into which M. Colombat has fallen in his directions as to the mode of proceeding for the reduction of the womb.

The editor saw, in conjunction with the late Prof. James and Dr. Fox, a case in which the womb was not only completely inverted, but had been strongly pulled by the midwife. In which case he pursued, at first, the method recommended by Dewees and other authors, of grasping the globe firmly with the hands, in the view of pushing it back bodily into the pelvis, but was unable to meet with the least success until he had taken off the placenta, which still adhered, though detached in certain parts of the surface and much torn.

"After I had removed the after-birth," remarks Dr. M., "I found that the organ became alternately soft and rigid, just as happens after delivery in an ordinary labour; and I farther observed, that to handle it was to irritate its contractility and to harden it, which rendered it obdurate against every attempt at reduction. I was compelled, therefore, to do what M. Colombat so pointedly condemns; *i. e.*, to wait until it became relaxed, and then to indent the fundus and to drive that cone through the centre of the globe, and up through the cervix and os uteri, until I had carried my hand so high that the external organs contained my arm not more than four or five inches below the elbow. I feel very confident that if, *in any case*, I could succeed in indenting a fundus uteri and in bringing the cone up to the os uteri, I could always perfect the operation by gently pressing that cone against the ostium uteri, which, under a persevering maintenance of the pressure, would yield as readily as it does to a labour-pain, or to the cone of the hand, when introduced in cases of hourglass contraction or spasm of the cervix under encysted or retained placenta." —p. 187.

Of the various other lesions of situation of the genito-urinary organs of the female, the reader will find a very excellent account given by the author. Of the present state of our knowledge in relation to the character, phenomena and management of these accidents he has, generally speaking, presented a very accurate exposition—which is rendered still more interesting by the several additions made by the very able editor.

The third section treats of the physical lesions of the sexual organs of the female. These are comprised under three divisions:

1. Contusions, wounds, and lacerations of the vulva, perineum, vagina and uterus,—ruptures of these organs,—and, finally, contusions and wounds of the mammæ.
2. Vesico-vaginal, utero-vaginal and recto-vaginal fistulas; and,
3. The accidental introduction of foreign bodies into the genital cavities.

The short account given of the causes and treatment of contusions of the labia majora is sufficiently explicit, considering the nature and comparatively unfrequent occurrence of the accident. The more important subject of rupture of the perineum receives a more extended consideration. The account given of it by M. Colombat constitutes, indeed, one of the ablest sub-sections of his treatise. A curious case is related, in a note by Dr. Meigs, of a female, in whom, from a rupture of the perineum, there existed "an opening, extending from the posterior half of the anus to the anterior commissure of the vulva, or what might very properly be called a cloaca; for the anterior perineum had wholly disappeared, and along with it all the anterior circumference of the lower part of the rectum, whose anterior margin the doctor felt up within the cloaca, and lying near the sacrum." Under such circumstances of loss of substance and structure, she had borne three children, at the period when her condition was first detected by Dr. M., and has had three others since that time. She assured the doctor, that except when she labours under some diarrhœa or looseness of the bowels, she has not the least trouble on account of her condition,—discharging her fæces at regular and stated times, and with the same facility as a person in health might enjoy. Moreover, her health is good.

Rupture of the uterus receives from M. Colombat all the attention which the serious character of the accident demands.

The various opinions that have been emitted in regard to its predisposing and determining causes are enumerated. It is doubtful, however, whether many of the causes assigned as those predisposing to or producing rupture of the uterus have any agency in its production. In the only two cases which have fallen under notice, the uterine parietes at the place of rupture were manifestly softened, and in one, there existed a spot near the base of the uterus, which had not, however, given way, that was so nearly of a gelatinous consistency that the finger could be passed through it without difficulty. In this instance the rupture took place in the very first stage of labour, before any very severe pains had occurred, and previously to the head of the child being fully engaged in the pelvis. We noticed in neither instance the sudden occurrence of a violent pain and the piercing cry of the patient, enumerated among the symptoms of this accident by M. Colombat and other writers.

Upon the whole, however, the account given by the author of the phenomena, nature, and management of rupture of the uterus is a very excellent one. Nearly all, also, that is known in regard to the causes and phenomena of ruptures of the vagina, and the mode of treating the consequent vagino-vesical and recto-vaginal fistulas which result from these accidents, will be found recorded in the work before us in the sub-sections devoted to their consideration.

In the ensuing section, among the other vital and organic lesions of the sexual organs, M. Colombat treats of prurigo of the vulva, a very common and most distressing malady. He presents the usual account of its symptoms, and enumerates the various remedies that have been recommended for its removal—all of which we have employed often without, however, seeing any benefit result from either of them. The local applications that have appeared to us to succeed the most frequently in allaying the intolerable itching, are a strong solution of the borate of sodæ in water, and a watery infusion of opium. Dr. Meigs, in a note, recommends a solution of half an ounce of the borate of sodæ in eight ounces of distilled water of roses, with the addition of six grains of sulphate of morphia, to be applied thrice a day to the affected parts, by means of a bit of sponge or a piece of linen, the surface being first washed with tepid water and soap and well dried. Dr. M. states, that he has rarely had occasion in any case to order any other remedy. It is remarkable that this gentleman has never met with cases of pruritis vulvæ attended with an aphthous condition of the inner surface of the genitals—neither is the fact referred to by M. Colombat. We have noticed the aphthæ in many cases of pruritis vulvæ occurring in the unpregnant female—but in the cases occurring during gestation, the appearance of the parts affected, where we have had an opportunity of examining them, have most generally corresponded with those described by Dr. Meigs, though occasionally the pimples, in the different conditions described by the author, were present.

Dr. Ashwell, in his chapter on this affection, quotes from Dr. Oldham a very interesting account of follicular inflammation of the vulva, and the plan which he has found most successful for its cure. We have reason to believe that this disease is by no means of unfrequent occurrence.

It consists of a number of slightly raised highly vascular points, clustering around the elevated border of the orifice of the urethra, and skirting the margins of the nymphæ. It does not extend to the labia, or vestibule, or clitoris, or vagina. The inflamed points are sometimes isolated and small, but as the disease progresses, several of them coalesce, and here and there a minute speck of ulceration may be seen in their centre—little or no swelling is present. Dr. Oldham's cases occurred in married women, of nervous and excitable temperaments, who had borne the disease for a long time before the parts were examined and its real nature detected. It is attended with a severe, smarting, shooting pain in the vulva, which renders the sitting posture exceedingly painful, and is much increased by walking. Sexual intercourse is attended with intense suffering; the sphincter vaginæ is so contracted as to cause an accumulation in the vagina of the abundant leucorrhœal discharge by which the disease is accompanied. The slightest touch or handling of the inflamed parts causes intense pain. Menstruation and gestation are not necessarily interrupted. "When once the finger passes beyond the ostium vaginæ, no farther pain is experienced in tracing it along the canal, or feeling or balancing the womb; but a quantity of puriform fluid, which had freely bathed these parts, passes out with the finger. The patients do not complain of pruritis so much, and there is little fear of friction;

neither, indeed, is micturition painful, although the under edge of the urethra is commonly affected. The general health issoon impaired, and the patient becomes hysterical, and far less able to endure the local sufferings."

The treatment Dr. Oldham has found most successful, is the administration of the liq. hyd. bichlor. ʒj, in the compound decoct. of sars. with the extract three times a day, and freely anointing the parts with an ointment composed of hydrocyanic acid ʒij, and acetate of lead ʒj, well rubbed up in an ounce of the cocoa nut oil. During the treatment the patient is to be kept, as much as possible, in the recumbent posture, without absolutely restricting her to it. She is to observe the utmost cleanliness, and guard against cold. Change of air contributes greatly towards restoring the lost strength, and diminishes the constitutional irritability which soon appears in the course of the complaint.

A short account is presented by M. Colombat of the acute inflammation of the vagina, and a much more complete and elaborate exposition of the pathology of the most usual forms of acute metritis—which merits a careful perusal on the part of the young practitioner upon whose mind the premonitory symptoms and usual course of the disease should be strongly impressed,—for, in the more acute cases, especially those occurring subsequently to parturition, it is only by prompt measures, early commenced with, that the disease can be arrested and the life of the patient preserved.

The frequent and distressing malady known as rheumatism of the womb, is not noticed by M. Colombat, but the editor has appended an excellent account of it, translated from M. Cazeau's treatise on Midwifery.

Chronic metritis is next considered by the author, under the several forms of subacute and simple inflammation without engorgement—chronic inflammation with engorgement—subacute and chronic catarrhal inflammation—inflammation with ulceration—inflammation with granulations. The diagnosis and treatment of these several forms are laid down with great clearness—a matter of some importance to the inexperienced practitioner, for by an early detection and discrimination of the chronic inflammations of the uterus and their judicious management, much discomfort and suffering may be spared the patient, and no little discredit to the practitioner. The treatment directed by M. Colombat is in general based upon correct therapeutical principles.

The consideration of leucorrhœa belongs of course to this portion of the treatise, it being very properly regarded by M. Colombat as the result, in the majority of cases, of an inflammation of the lining membrane of the uterus and vagina—he might probably have extended the inflammatory character to a larger number of cases than he has seen fit; and the accuracy of referring the disease in any instance, as the author has done, to "a state of general or local atony," may be doubted.

With some few exceptions, M. Colombat's account of the pathology of this affection—including his description of its causes, phenomena, and usual course—is full and accurate, and his directions for its treatment judicious, and in unison with the experience of the most enlightened practitioner.

The chapter devoted to the same subject in the treatise of Dr. Ashwell, is likewise a very admirable one. The same objections may be made to his pathological views as to those of M. Colombat. He has, however, described its treatment with great skill and commendable caution—and with even greater fulness than the other.

It would be impossible to do justice to the accounts rendered by the two authors before us, of the cancerous and other malignant diseases of the uterus, or to indicate to our readers, within any reasonable space, the peculiar merits or demerits of each, even were we to enter upon a formal review of that portion of their respective treatise which is devoted to the consideration of these maladies. By both the subject is very ably treated, and a very clear and satisfactory abstract presented of the state of medical opinion in regard to it—and either treatise may be safely consulted for an account of the nature of the diagnostic phenomena and of the most approved methods of treating the malignant affections alluded to.

In the treatise of Dr. Ashwell, the consideration of the pathology and therapeutics of these maladies is preceded by an admirable account of the various means of diagnosis to be put in requisition in the investigation of the organic affections of the female genitals.

M. Colombat is an advocate for the resection of the neck of the uterus in all cases in which the cancerous affection is well marked, or even when there remains some doubt as to its true nature, if the disease has advanced in spite of the methodical employment of the therapeutical resources that have been found by experience best adapted to arrest its progress.

> "This new and bold operation," the author remarks, "made a great noise in France, and was adopted and several times performed by Dupuytren and Professor Recamier, to whom the science is indebted for the cylindrical speculum. But the hopes which the first results gave rise to not being realized, it was in some sort abandoned by the surgeons who had been its first partisans, when in 1826, the numerous cases published by M. Lisfranc, forced the most incredulous to recognize the little immediate danger usually incurred, and to acknowledge that, when practised in good time, and in the proper mode, it forms the only resource which affords any chance of success in cases rebellious to all other means."—pp. 346–7.

M. Colombat proposes a method of his own for performing this operation—the advantages of which over those of other surgeons he has detailed at some length.

Extirpation of the uterus he condemns, except, perhaps, in cases where the womb, already partially expelled from the pelvis, and, in some sort, detached from the rest of the organism, may, in one sense, be said to have lost its right to inhabit the cavity of the pelvis.

Dr. Ashwell enters into a very able and elaborate examination of the pathology, diagnostic phenomena, progress and treatment of cancer uteri —and presents a very fair and instructive exposition of all the facts which bear upon the subject. These have been collected with great industry, and very judiciously related and arranged.

In regard to recision of the cervix uteri for the removal of cancerous and other malignant affections of this part, Dr. Ashwell gives the following cautious and very sensible judgment:—

> "We cannot wonder, with so many limitations, that Montgomery, Blundell, and Robert Lee, and many other eminent men, should condemn the operation as of scarcely any use, and yet I cannot but think, now that uterine diseases are so much better understood, and the absolute necessity for *early* examination by the speculum as well as the finger, so universally conceded, that opportunities will more frequently present themselves for its justifiable and successful performance. I have often been surprised that so very few, scarcely any, cases

occur at Guy's Hospital in which removal would be at all allowable. Frequently for months, and I may say years, I have anxiously examined with a view to excision, and have been disappointed by finding the disease too far advanced. Hence I have been induced to believe, that in many of Lisfranc's cases, the operation was performed for chronic congestion, not cancer of the cervix. But we may not yet have arrived at a dispassionate and just estimate of its value; and it is more than probable that, hitherto, excision has generally been practised, either in affections not malignant, or at a too advanced period of real cancer.

"The following conclusions are perhaps correct:—

"1. That the operation is an easy one. 2. That excessive and dangerous bleeding is not a necessary accompaniment. 3. That in some instances, for the time over which subsequent observation has extended, cancerous ulceration of the cervix uteri has been cured by it."—p. 298.

With M. Colombat, Dr. Ashwell condemns the extirpation of the entire uterus, excepting in cases of inversion and displacement, as difficult of performance, highly dangerous, and almost uniformly fatal.

In M. Colombat's treatise we have a short account of tympanitis of the womb, to which the editor has appended two notes in which he calls in question the possibility of the occurrence of a true case of physometra. These notes are deserving of a close consideration. We have, it is true, never ourselves met with a single instance of this affection—we cannot, however, infer the impossibility of its occurrence from any *a priori* reasoning—and there is abundant evidence to prove that air may be generated in the different cavities of the human body entirely independent of the decomposition of any matter contained in them.

To those who are desirous of studying fully the subject of polypous tumours of the uterus and vagina, we recommend the account given of them by M. Colombat. Their varieties, the symptoms attendant upon their presence and growth, and the various means proposed for their removal—in fact, the entire subject of their pathology and treatment is presented with great fulness, and illustrated and enforced by numerous apposite facts drawn from the records of surgical science.

The chapter of Dr. Ashwell on the same subject, though more concise and less laboured, is a very good one—and furnishes an excellent abstract of what is known in relation to the causes, character and management of uterine polypi.

There is little difference of opinion between the two authors in relation to the most advantageous mode of operating in the several varieties of polypous tumours which occur within the uterine cavity. Both direct the ligature in those instances in which the polypus is pediculated; M. Colombat, however, considers that in most cases the operation of excision is to be preferred. When we take into consideration, he remarks, the inconveniences and advantages on both sides of these surgical measures, the ligature and incision, we ought not to hesitate in looking upon the operation by the latter as the general rule, and that by the ligature as the exceptional case.

Dr. Ashwell admits that many of the disadvantages attendant upon the use of the ligature, are avoided where a polypus is excised. The latter operation is quickly done, and without pain or injury to the neighbouring structures. But is it quite certain that we can always guard against the risk of excessive or fatal hemorrhage? That there are many polypi which may be so removed does not admit of doubt. From all the facts he has been able to collect, Dr. Ashwell concludes, that "if the polypus be large and of hard structure,—if it be of the white kind already mentioned, as having scarcely any blood-vessels,—if there has been but slight hemorrhage during its growth, and if there be no pulsation in the stalk—excision will be the preferable practice, or, if the operator incline to be cautious, he may noose it first, and either immediately, or in a few hours afterwards, excise below the ligature."

Inflammation of the ovaria and Fallopian tubes receives a short notice from M. Colombat, introductory to a consideration of ovarian dropsy. This affection, too often overlooked by the inexperienced practitioner, is nevertheless of by no means unfrequent occurrence, and when it runs into a chronic form, is apt to produce extensive disorganization and enlargement of the ovary in which it is seated. The account given of the disease by the author is very concise, though in general accurate.

The extirpation of the ovary under such circumstances, as recommended and practised by some physicians, is condemned by M. Colombat, in every case, and this condemnation is reiterated and enforced in a long note by Dr. Meigs—to which we beg leave to invite the particular attention of our readers.

> "I am free to say," Dr. M. observes, "that I look upon operations for the extirpation of the diseased ovary, as not to be justified by the most fortunate issue in any ratio whatever of the cases. I apprehend the ratio of success hitherto obtained, as not justifying the operation."—p. 415.

The account of ovarian dropsy contained in the treatise of M. Colombat, is a very admirable one. The several changes of structure in the ovaries giving rise to the disease are accurately described. The gradual and insidious progress of the tumour is well portrayed—its diagnosis carefully laid down, and what little is known in relation to the proper treatment of the disease, very clearly stated. It has been our misfortune to have under our care a large number of cases of this affection, and must confess that we have seen very little benefit result from whatever plan of treatment was instituted,—all the patients finally sank under it—some apparently from mere exhaustion, but the greater number from the sudden occurrence of acute peritonitis. The remarks of the author on the operation of tapping are just; that operation may occasionally, it is true, afford relief by reducing for a time the size of the tumour—still the good which results from it is almost always ephemeral, the collection reappearing after each operation with a constantly increasing rapidity. We have never seen any case in which the uterus, intestines or other of the abdominal or pelvic viscera were wounded in performing the operation, nor in which any serious hemorrhage resulted from it, but we have repeatedly known it to be followed by a state of extreme exhaustion—and still more frequently by an attack of acute peritoneal inflammation terminating quickly in death.

In Dr. Ashwell's treatise there is also a very full and able account of the various diseases of the ovaries. The remarks of the author upon the character of these affections are, in general, judicious and borne out by the results of experience, and by the facts brought to light by pathological anatomy. His description of the phenomena, local and general, by which they are attended from their commencement, throughout their progress and until their close, is particularly accurate, while his remarks upon their therapeutical management and the various operations that have been proposed for the radical cure of the enlarged and dropsical state of the ovaries, are marked by good sense and commendable caution.

With regard to extirpation, he remarks:—

> "The extirpation, we are assured, by the operators themselves, in a fit case, is far from difficult,—would that it were more so—for then it would not be so readily undertaken. If it required as much surgical knowledge and skill to make these large and brilliant abdominal incisions, as to tie the subclavian artery, or to perform a trying operation of lithotomy, the lives of many women would have been already spared, and fewer would be sacrificed for the future. What would be thought of the feasibility of any other operation involving life in the most imminent hazard, if we discovered that out of 67 cases where it had been attempted, it was, *from absolute error of diagnosis, incapable of completion in eighteen;* that of the remaining 49 patients, where the extirpation was effected, *sixteen died* and *two were not cured,*—so that out of the whole number 67, *the operation failed* in *thirty-six, and succeeded in thirty-one,* less than one-half. Such results are distressing, especially when we hear no greater doubt expressed about the operation itself, but only higher confidence in its value, and greater laudation of the operators. We willingly concede presence of mind and ability to many of the extirpators of ovarian cysts; but we are unable to discover (for the later operations have been quite as unsuccessful, from unfitness of the cases, as the earlier ones), that any advance has been made in diagnosis. Nor, when the tumours themselves are examined after death, when the malignancy of many of them is recognized, and their firm, almost indivisible adhesions, and their immovable masses of new and morbid substance are brought to view,—it is next to impossible to entertain any sanguine hope, that our means of diagnosis can ever be much improved."—p. 455.

The consideration of cancer of the female mammæ, follows that of the cancerous affections of the female genitals. The pathology of disease is treated at considerable length, and the various modes of treatment that have been proposed to arrest its development or to effect its radical cure, are detailed, and the relative merits of each briefly examined.

The whole subject receives all that attention which its importance merits, while the present state of medical opinion in reference to it is very ably exposed.

The subject of encysted tumours, and of the different kinds of chronic engorgement of the mammæ, which receive from M. Colombat only a very brief notice, might have occupied, with advantage, a much larger space. Of extremely frequent occurrence, often very obscure in their character, they are frequently the source of much uneasiness to the patient and her friends, and of no little trouble and anxiety to the practitioner.

The fifth section of M. Colombat's treatise is devoted to the lesions of function of the female genitals. Among these, derangements of menstruation occupy, of course, a very prominent rank. As indications of disease of the organs of generation, or of some other portion of the female organism, the derangements of the menstrual function become, it is true, in a large number of cases, all important morbid phenomena. Their pathology has heretofore been but little understood, from our ignorance, until a very late period, of the true causes of menstruation, while their therapeutical management has been, in consequence, uncertain or altogether empirical. Too much attention has been directed to re-establish the regularity of menstruation by remedies which are supposed to act immediately upon the uterus, from a supposition, erroneous in the greater number of cases, that whatever disease the patient may labour under, it has its origin in, and is kept up by the non-appearance, cessation or disturbance of the menstrual flux.

Dr. Meigs, in a note at the very commencement of this section, has presented a concise sketch of the modern doctrine of the nature and causes of menstruation, which throws much light upon the disorders of this function, and their proper therapeutical management.

M. Colombat divides all the lesions of menstruation into two principal heads.

> "The first comprehends: 1. *Menophania*, or non-appearance of the first menstruæ. 2. *Dysmenophania*, or difficult establishment of the first menstruation. 3. *Menostasis*, or amenorrhœa from retention. 4. *Amenorrhœa*, properly so called, or suppression of the menstruæ. 5. *Dysmenorrhœa*, or incomplete and painful discharge of the menstrual fluid. 6. *Menometastasis*, or deviation of the menstruæ. 7. *Menopausis*, or the cessation of the discharge at the critical period.
>
> "The second class, or *hypermenorrhœa*, includes *menorrhagia* and the different sanguine discharges from the uterus."—pp. 462-3.

M. Colombat, however, very properly remarks that—

> "The menstrual disorders we have now enumerated, instead of forming diseases always distinct, are commonly like other functional disturbances, nothing more than symptoms, or groups of symptoms, resulting from a crowd of latent affections, from different sympathetic reactions, or from some organic alteration which is almost always discoverable by an attentive examination."—p. 463.

In his examination of the lesions of menstruation, M. Colombat treats of them simply as amenorrhœa, dysmenorrhœa, immoderate flow of the menses and uterine hemorrhage. A similar arrangement is followed by Dr. Ashwell, excepting that the latter has introduced a special chapter on vicarious menstruation, these being included, by M. Colombat, under the general head of amenorrhœa.

The account given by both authors of the various forms of amenorrhœa is, upon the whole, tolerably full and accurate. We prefer, however, that of Dr. Ashwell, as being more precise, and exhibiting a more judicious exposition of the therapeutical management of the several cases in which the menses may not be established at the usual period, or become suppressed subsequently. Some excellent remarks are presented by the latter upon the various articles proposed as emmenagogues, their relative value, and the circumstances under which the exhibition of each may become proper and beneficial.

Dysmenorrhœa receives a very brief notice in the work of M. Colombat, and one by no means satisfactory. Dr. Meigs, in a note, has supplied, in part, the deficiency of the author, by appending an account of dysmenorrhœa from stricture of the canal of the cervix uteri, which was first pointed out by Dr. Mackintosh, who proposed to overcome the stricture and remove the pain attendant upon menstruation in such cases, by dilating the canal with the bougie. The editor notices his own experience in reference to the treatment referred to, and describes the mode of procedure. He likewise points out a form of dysmenorrhœa in which the pain is experienced in the region of the ovaries, sometimes on the right and sometimes on the left, and which he supposes to result from the exalted sanguine and nervous force of one of the ovaries and tubes, coincident with the mensual hyperæmia, and complete development and rupture of a Graafian vesicle.

> "In such a case, the therapeutical treatment indicated would be the reduction of such vital augmentations, to be effected by venesection, by cooling aperients,

by baths, fomentations, cataplasms, by the application of leeches along the region of the round ligament, and by a blister in anticipation. This method, with the calming and restraining influence of the anodyne enemata, or suppository would suffice, together with the proper hygienic precautions as to dress, diet and exercise, probably to overcome the morbid tendency of the functions."—p. 482.

A much more complete and accurate account of dysmenorrhœa—the various circumstances under which it is liable to occur, and a fuller and more judicious exposition of its treatment, is contained in the treatise of Dr. Ashwell. It will be found to comprise nearly every well-ascertained fact in relation to its pathology and therapeutics.

Of menorrhagia and uterine hemorrhage there is in both treatises a very excellent account. We prefer, however, that of Dr. Ashwell, whose pathological views and practical directions agree the nearest with our own opinions and experience. Neither of the authors insists sufficiently upon the employment of the acetate of lead in the several forms of uterine hemorrhage. By the one it is scarcely mentioned, while by the other, it is not enumerated, as it certainly deserves to be, among the more prominent and effective means for arresting the discharge of blood. Combined with ipecacuanha, in the active forms of the disease, and with opium, in the chronic, it will, according to our observations, seldom fail to do good. Of the powers of the ergot as a means of arresting uterine hemorrhage, we have also considerable experience, and fully concur with Dr. Ashwell in his estimate of its powers.

Dr. Meigs, in a note to M. Colombat's treatise, recommends in perverse cases of metrorrhagia, where the use of astringents is indicated, "a decoction of the roots of the common black currant, ripe, and the roots of the dewberry. A handful of each of these articles is to be boiled in two quarts of water, and after straining the liquor, the patient should take half a cupful occasionally for a dose."

Chlorosis,—which nearly all writers have enumerated among the diseases of the female, mainly, we presume, in consequence of the defect of menstruation by which in her it is attended,—is treated of at great length in both of the treatises before us. The disease, properly speaking, is not, however, confined to females, but is repeatedly met with in children of both sexes, and in men.

Both authors agree that the prominent symptoms of chlorosis are dependent upon a morbid condition of the blood—there being an increased proportion of serum, with a marked diminution of the crassamentum. All the morbid phenomena by which the disease is attended can be readily explained by the defective or vicious hæmatosis, the existence of which is undeniable. M. Colombat considers that the theory which supposes the chlorotic condition to depend upon sanguine asthenia producing vicious hæmatosis, with increase of serum, and diminution of fibrous colouring matter and iron, does not state the true nature of the malady, nor indicate under what pathological influence the disorders of the circulation, digestion, menstruation, &c., make their appearance. He maintains, that to explain all the derangements of the organism, which together constitute chlorosis, we must refer the primary cause of the affection to a general asthenia of the nervous system, and especially of the nerves of the ganglionic portion of that system.

Dr. Meigs, in a long note, admits that the morbid state of the nervous system is present, but endeavours to show that this is in all probability produced by the vitiated hæmatosis, and the consequent unhealthy state of the blood—and in searching for the precise point at which dwells the proximate cause of the disorder, finds it, he presumes, in a morbid state of the lining membrane of the blood-vessels generally, which he considers to be the true organ of hæmatosis. As this hypothesis changes in no degree the indications of cure in cases of chlorosis—upon which nearly all well-informed physicians are pretty well agreed,—it is at least an innocent one; but as in all our pathological and therapeutical deductions it is safest to confine ourselves to well-established facts, we regret that the hypothesis has been advanced by Dr. Meigs, or, having advanced it, that he has not presented us at greater length with the data upon which it is founded, and pointed out, with more clearness the character of the morbid change he has supposed to take place, in cases of chlorosis in the common membrane of the sanguiferous apparatus.

The pathology and treatment of chlorosis, under the various circumstances in which it presents itself, are more elaborately considered by Dr. Ashwell than by M. Colombat. From the study of the former we conceive a more accurate acquaintance with its character, progress, occasional complications, and proper management may be acquired than from the former. The accounts given by both are, however, very excellent—taken together, they constitute a very perfect history of the disease.

Both of the authors before us treat of Hysteria as one of the diseases of the female sex. M. Colombat considers that the disease is strictly confined to the female, and has "its principal seat in the nervous system of the uterine apparatus"—that "it consists of a special and *sui generic* mode of excitation and perversion of this system, reacting sympathetically upon the general nervous system," and further, "that this peculiar excitation, this morbid modification of the uterine innervation may itself have for its origin, either a local irritation, often inappreciable, or a sympathetic one, resulting from a moral cause, and from the pathological condition of some organ or different apparatus with which the uterus has bonds of union more or less direct." The forms of spasmodic disease resembling hysteria often met with in males, however much they may resemble hysteria, the author believes to differ from it in several essential characters. Dr. Meigs adopts fully the views of M. Colombat, and supports them by a long chain of reasoning, not, however, of the clearest or most conclusive character.

The evidence of the frequent occurrence of hysteriform attacks in males is of too conclusive a character not to be admitted by so acute and well-informed an author as M. Colombat, who, however, separates them from hysteria, properly so called. Dr. Meigs does not, however, perceive the force of the author's argument against the uterine nature and origin of the hysteric paroxsym or passion.

> "Not only," he remarks, "the celebrated case mentioned by Sydenham, but numerous published cases of the disorder occurring in males, show that the affection is not confined to women alone; and yet, even admitting that the *womb* itself, or the *ovary*, is not at the foundation of the malady, nor the disturbing force in the malady, we may readily conceive it is in the reproductive tissue, and the reproductive influence or power, that is situated the *fons et origo* of the evil. I conceive," he adds, "the question to be, not so much whether hysteria arises from a disturbing power of the womb, as from a disturbing power of the reproductive agencies implanted in the economy; and I conceive that deviations of that power, or those agencies, whether in *the male* or *the female*, may alike be regarded as *ipsissimas causas* in these maladies."—p. 537.

All this is very good so far as it goes—but it has the misfortune of all the other hypotheses that have been advanced to account for the production of the hysterical disease, to be unsupported by any series of well-established facts.

Dr. Ashwell, whose account of the pathology and treatment of hysteria is replete with good sense, and his deductions in regard to its causes and character are, in general, marked by great judgment and caution—refers its origin to nervous irritation—that portion of the organic nervous system which supplies the organs of reproduction being the most frequently implicated. The disease is liable to be excited, in persons possessed of a peculiar and constitutional susceptibility to impressions, by any circumstance capable of acting upon the nervous system generally, or of any particular part of it.

Notwithstanding the account of this disease given in the treatise of M. Colombat is the most learned and profound, nevertheless, that contained in the work of Dr. Ashwell is better calculated to lead to accurate views of its phenomena, diagnosis and management.

The consideration of the diseases peculiar to the female is followed, in the treatise of M. Colombat, by a chapter devoted to the hygienic rules adapted to the different epochs of her life, and to the particular circumstances under which she is liable to be placed. These rules are marked throughout by sound sense, and are based upon the results of experience and correct views of physiology—their observance would save the female from many of the diseases to which she is exposed, and be the means of prolonging her vigour, health, comfort and beauty.

The sixth section of M. Colombat's treatise comprises the lesions and sympathetic phenomena produced by conception, pregnancy, labour, and lactation. In this section, the author treats of impotence and sterility—of false pregnancy—of moles or depraved conception—of extra-uterine pregnancy—of abortion—and of the morbid phenomena dependent upon the sympathetic influence of the pregnant uterus upon the different functions of the organism—including, among other accidents, a consideration of the important questions of uterine hemorrhage, and puerperal convulsions, followed by a consideration of the diseases connected with the puerperal state.

The whole of this section would well repay the labour of a close and extended examination. The subjects are in general treated with uncommon ability by the author, and, with the frequent and judicious notes of the editor, the section will be found to contain a valuable digest of the present state of medical opinion and experience in regard to the diseases embraced in it. The notes of the editor on the management of cases of uterine hemorrhage during pregnancy, on palpitation occurring at the same period, and on the treatment of puerperal convulsions, are particularly interesting, and add much to the completeness and value of this portion of M. Colombat's treatise. We have, however, extended already to an unusual length our notice of the two works before us, and we shall be under the necessity of confining our concluding remarks exclusively to the account given by the last-named author of puerperal fever.

M. Colombat treats of the disease under two divisions, that of puerperal peritonitis and uterine phlebitis. Under these forms he has portrayed, with great accuracy, the usual phenomena by which the fever is ordinarily characterized—its sudden onset, rapid progress, and too frequently fatal termination, and has pointed out the treatment—active depletion—by which alone ample experience has proved, when early commenced with in the forms described, its fatal progress can be stayed. The therapeutical directions of the author are enforced by Dr. Meigs in a long note, in which he has repeated pretty much the same arguments and considerations which are set forth in his introductory observations, published in connection with the treatises of Gordon, Hey, and others, forming a volume of the Select Medical Library, edited by Dr. John Bell, of Philadelphia.

M. Colombat has not, however, described with sufficient accuracy one of the forms of puerperal fever, which is most frequently met with when the disease prevails as an extensive epidemic. It is not so much his views of the general pathology of the cases alluded to that may be objected to, as the want of precision which marks his history of their symptoms from the onset of the disease, until its period of full development. Nor will the active antiphlogistic treatment directed by the author, and reiterated by the editor, in such cases be found to be so generally successful as the tenor of the enthusiastic eulogy, pronounced upon it by Dr. Meigs, would lead us to suppose. We would not, by these remarks, be understood as objecting to the use of the lancet, particularly in the onset of the disease, but would guard the young practitioner from believing that in the lancet he has a means of so generally and certainly controlling the fatal tendency of epidemic puerperal fever, as the language of Dr. Meigs would lead him to suppose. While it must be admitted that in the generality of cases, depletion, carried to its fullest extent, on the very onset of the disease, is our best remedy in the usual forms of puerperal fever, it is nevertheless unquestionable that, in certain epidemics, the malignancy of the disease is such that no treatment whatever will avail in staying its progress or saving the patient. A just estimate of the value of blood-letting in this affection will enable the practitioner by its opportune use to do much good—an exaggerated estimate of its efficacy, and the disappointment to which this will often lead, will be liable to induce continual distrust of it, even in the cases to which it is best adapted.

The subject of puerperal fever does not fall within the scope of Dr. Ashwell's treatise.

The remaining diseases of the puerperal state described by M. Colombat, are phlegmasia dolens, puerperal neuritis, inertia of the womb, miliary eruption, and the lesions relative to lactation, the pathology and treatment of all of which, with the exception of inflammation of the mammæ, are treated with great conciseness—the author's remarks, in relation to their character or management, presenting nothing of a very novel or interesting character. The account of mammary inflammation and abscess is replete with judicious observations; it is a subject, however, in relation to which we should have expected, from an experienced practitioner, a still more extended notice. The exciting causes and means of preventing this painful affection of the period of lactation, deserve a more complete investigation than has been given to them by the generality of the writers on the diseases of females.

M. Colombat's treatise concludes with some judicious remarks on the hygiene of the parturient state.

In an appendix to the work of Dr. Ashwell, we are presented with a highly interesting and instructive account of the morbid consequences of undue lactation, a subject, the facts in relation to which require to be well understood and duly appreciated by the physician, in order that he may aid in dispelling various popular errors which prevail in regard to it.

Our notice of the two works before us, although somewhat imperfect, will serve to convey to our readers a general idea of the scope and character of each. Notwithstanding both treatises profess to treat of the same general subject, the manner in which the two authors have fulfilled their task differs very materially. By M. Colombat there is displayed great learning, extensive research, and a respectable amount of personal experience, combined with considerable judgment and a much greater degree of caution, in the promulgation of the opinions, whether pathological or therapeutical, which he advocates, than is usually met with in the medical systematic writers of his country. He has had the good fortune, also, to have met, in Dr. Meigs, with an able, industrious and judicious editor, who, in introducing the author's work to the American medical public, has not only given to it a very attractive English dress, but has enhanced materially its value by copious and important additions, which, from his extensive experience in the diseases of females, and well-known habits of investigation, will be consulted with great interest and no little profit. We agree entirely with the editor in his opinion, that "as a text and table book for the student and practitioner," the work of M. Colombat, particularly the edition before us, has no superior in the same department.

The treatise of Dr. Ashwell is a much less comprehensive one—the author also exhibits less pretension; but in his exposition of the pathology and treatment of the diseases embraced in it, is in no degree inferior to the former. Confining himself mainly to the affections incident to the non-pregnant female, of these he has delineated with great ability and accuracy the history, phenomena, diagnosis and general terminations, and presents a very fair exposition of the most approved systems of treatment adapted to each. In reference to one or two subjects, we prefer the account given by Dr. Ashwell, to that contained in the more learned and laboured treatise of M. Colombat. The illustration of each disease that is treated of, by a series of appropriate cases, detailed at length, is a feature in the work of Dr. Ashwell which will be found both useful and interesting. The American editor, Dr. Goddard, has added but few notes. These are, however, in general, very judicious.

As a work for the use of the younger student, the latter treatise will be found, we believe, in many respects, preferable to that of M. Colombat, which is better adapted to those more advanced, and as a work of reference for the practitioner. No medical library can be considered complete, however, that does not embrace both. D. F. C.

Art. XI.—*Human Health; or the influence of Atmosphere and Locality; change of air and climate; seasons; food; clothing; bathing and mineral springs; exercise; sleep; corporeal and intellectual pursuits, &c., &c., on healthy man; constituting Elements of Hygiène.* By Robley Dunglison, M. D., &c., &c. A new edition, with many modifications and additions. Philadelphia, Lea & Blanchard: pp. 464, 8vo.

This is a new edition of a work which the author published some years ago. We thought that to be a good book; but this is an improvement upon it. The subject of Hygiène has received more attention within a few years than at any former period. People are inquiring more earnestly, and governments have set on foot investigations into the circumstances connected with the human family, and the effects of these upon human health. It is now ascertained, that, though man is to be supported in life, by food and drink; that he is to be protected by clothing and dwellings; that he is to work and to sleep; yet there are a great variety of ways in which these things may be done, and it is not a matter of indifference which of these ways is selected, nor in what measure, nor of what kind, the materials of life are supplied. In former times, when disease and death were supposed to be the work of an unchangeable and, perhaps, a capricious Providence, there was no motive to inquire into the causes, for no knowledge could avail to avert or modify them.

More careful investigations of the laws of physical life show, that these causes are subject to the observation and the partial control of man; and that the manner in which our bodies are sustained and protected; in which their powers are developed and directed, and the purposes to which they are applied, have an important influence upon the fulness and continuance of human life.

Finding that there is something in this matter to be learned, and that there is an object for the knowledge thus to be acquired, men have endeavoured to search out the law of life, and the best means of applying the material and circumstances about them, to their own sustenance. Works of Hygiène have, therefore, come in requisition. The medical profession want them to aid their teachings. The people want them to aid in their self-government. To meet, or, in many cases, in anticipation of this want, a number of books upon health, upon diet and regimen, have been written and published. Some of these, intended for the profession, are based upon and continually refer to the principles of physiological and chemical science, and are elaborate almost to tediousness. Others, intended for the populace, are more diffused and general, suited to the wants of, and as guides for the conduct of, every day life.

Some of these works are good; some are good for nothing. We have an abundance of theories of physical education, of regimen, and of diet. The last the most plentiful, but not always the most discreet. They differ widely one from another because they are built upon different foundations. Writers have very different notions respecting the manner in which the animal functions are performed, and the purposes to which the animal powers can be applied; and, by a necessary consequence, they must differ in regard to the material and form of the substances by which life is to be sustained. Those who considered the stomach to be a mill, a chemical laboratory, a fermenting vat, or a vital organ, could not come to more various conclusions as to the material which should be put into it than do many writers upon dietetics. We do not say that all these works are wrong; but surely they cannot all be right. Most of them contain some truth; some of them contain much that is true. But, unfortunately, many contain error so mingled with sound doctrine, that they are uncertain and unsafe guides.

It cannot be doubted, that the internal capacities of the human body differ as much as the external form, or as the mental faculties. The different habits of men, the various exposures to which they are incident, the uses and abuses of the material and the powers of life, increase these differences and often establish them. These being fixed in the parent may be transmitted to the child, and thus the physical powers and defects, the energies and the weaknesses of the stomach, of the skin, as well as those of the lungs and the brain, become hereditary. With these differences of organic power, we find that the nutriment of one man is the waste of another, and that the habits which would invigorate one constitution would break another down.

But the great difficulty is, that many writers upon health and the means of its preservation, disregard these peculiarities and consider all men as constitutionally alike. They have a limited field of observation, and do not ascertain what is the universal law. Not thinking it necessary to observe every variety of constitution, and in every variety of habit and exposure, they are content with observing a few of one sort, and from these drawing their universal inferences. These they establish as the general law, and thus substantiate it with those who correspond to the pattern, and reject as anomalies all that differ from it. Their standard is the true type; all variations are errors. In some cases the standard was one of disease. None are so fond of theorizing and advising as dyspeptics. What is best for them, they imagine to be the best for all. There is no doubt that all these may be right as far as they go; they reason correctly from their data—but their data are not universal—their rules of life are good for those from whose experience they were drawn—and for whose government they were formed—but not for others. The system of diet upheld by Mr. Graham is good for those who are best nourished by vegetable food—but others are better supported by meat or a mixed diet. Louis Cornaro's practice was good for him and for all other dyspeptics, whose digestive powers had been broken by a course of dissipation similar to his, but those who have had no ailment of stomach, and who have led regular, moderate courses of life, need not go to him for directions how to live. A recovered dyspeptic is apt to talk very much like a converted rogue; thinking that all mankind had been as unfortunate in the moral or physical way as he had been, he wants them to repent and reform. In truth many of these treatises should be entitled *directions for the recovery of health that has been lost*, rather than for *the preservation of health that is yet unimpaired.*

What might have been the best food and regimen for man in a state of health, even if he had not swerved from the original type, and all generations had till now preserved exactly the constitution and organization that our great ancestor possessed, is not for us now to say, nor is it of consequence that we should, if it were in our power. We are aware that many theories are based upon what is conceived to have been man's original power and want, upon what is assumed to have been the primary intentions of nature. Those might have done for Adam and his family, but we want books applicable to men as they now are; adapted to man not as he was before the flood—or in the savage state; but as he is now modified, improved or impaired by civilization.

Since man has emerged from the hunter's state, and ceased to depend upon wild beasts for food and clothing, and upon the caverns for shelter, he has found that the part which devolves upon him, in the work of self-sustenance, is capable of improvement, and the observations of every age have added new principles to the science of hygiene, and new parts for their application. This science of health is not the discovery of yesterday, nor the creation of one day. It is the gathered observations of all ages since man has begun to look upon himself as having any part in the care of life. It is enough that every generation should add its share to the general amount of this knowledge, and that the authors, in every age, should collect all that was previously known, and add thereto their own or their cotemporaries' discoveries. It is upon this principle that the work of Dr. Dunglison now before us is made up. It does not pretend to be an original work. It would be a worse book than it is if it were so, for no one could, out of his own mind, learn all that his precursors had discovered before him.

Dr. Dunglison has comprised within his volume much of what is known of the means and methods proper to be used in the management and preservation of health, in all their branches and ramifications.

The influences of atmosphere and locality, of seasons, of food and drink, of clothing, of labour and rest, upon the health of man, are all discussed, with learning and ability, in their principles and in their applications to the varieties of human life.

To give an abstract of all these subjects, or even an analysis, would exceed our limits. We commend the work itself to the careful perusal of our readers.

The chapter upon atmosphere and locality contains more that is new than the others, and is of unusual interest to the reader. These subjects have been studied for a long period, and with more success, within a few years, than before, and are here elaborately treated.

It is known and acknowledged that different diseases prevail in different climates, and with a varying degree of fatality. Some disorders are rare and mild in one region, while they are abundant and fatal in another. The influence of climate is not only active in the production of disease, but it acts an important part in the invigoration or the weakening of the body, in which no disease is actually developed.

The chemical constituents of atmospheric air are always the same. But it is often mixed with terrestrial exhalations, with the effluvia of vegetable or animal decomposition, and these in various proportions and combinations. The density of the atmosphere differs according to many circumstances, especially to the elevation from the centre of the earth. We have no sufficient data to determine, whether the rare medium on the mountain, or the denser medium upon the low plain, is the more favourable to the health of those who live permanently in them. Experiments show, that the sudden transition from one to the other is not easily borne. Travelers who ascend mountains several thousand feet in height, and the æronauts in balloons, experience some difficulty from the change of density of atmosphere. The respiration and circulation become quickened, for it requires more inspirations to bring the usual and needed quantity of oxygen to the air cells. But the permanent inhabitants of those elevated regions do not seem to suffer, or have any diseases peculiar to their locality. Potosi, in Bolivia, 13,205 feet above the level of the Pacific Ocean, with 12,000 people, is not reported to be unhealthy. The practice of the physicians in Calcutta and in some other parts of the low country in the East Indies of sending some of their patients, who are suffering under the diseases of the lower and hotter regions, to places which are elevated more than 7000 feet above the plain, seem to indicate, that a rarefied atmosphere is more favourable to some conditions of the human body than the denser air of the valley.

But after all, the whole effect of density of atmosphere and of elevated residence upon human health, is yet to be ascertained; for the reports of travelers and the experiments of philosophers have, as yet, revealed but little that is satisfactory and conclusive.

The effects of heat and cold are better established. The capacity of the living body to bear great extremes of temperature is wonderful. Capt. Back found that, "when the spirit in the thermometer was at 72 degrees below the zero of Fahrenheit," the air was quite endurable. On the other hand, Drs. Fordyce and Blagden stayed several minutes in a room heated up to 264 degrees Fahrenheit, without suffering. The northern navigators found a temperature of 15 to 20 degrees below zero, and passed a winter in it quite comfortably. On the opposite extreme, the oasis of Mourzouk is 130 degrees above zero. These show what the living body can endure for short periods, but not what is the most favourable for health and longevity.

In all climates and seasons, when the temperature is below 98 degrees, the human body is constantly parting with caloric. This seems to be a law of health. The calorific apparatus, whatever it may be, generates more heat than the system requires, and the surplus is thrown off through the skin. If this transit be interrupted, the internal organs, especially those of digestion, suffer. Therefore when the atmosphere is heated above the usual temperature of the body, we find a prevalence of disease in the abdominal organs.

> "The heat of the torrid regions of the globe appears to be particularly detrimental to animal health. The constant excitement induced by the elevated temperature, disposes the intestines to assume a morbid condition under favouring excitant influences. In this way we account for the various derangements in the mucous membrane of the intestinal tube, which are so frequent in warm climates and seasons; diarrhœa, dysentery, cholera, &c., with those universal attendants upon inflammations of the upper portions of the small intestine—liver diseases."—p. 26.

We are glad to see our author set his face against the vague use of the obscure term *bilious.* The liver is charged with many sins that do not belong to it. In some regions, and with many people, all sorts of gastric and intestinal disturbances are charged upon the liver. The epicure calls his surfeit *bilious;* and the dyspeptic thinks his gastrodynia is the effect of bile. Fevers, in which the liver is as undisturbed as the brain, are yet called *bilious.* So much has this term and the pathology conveyed by it, crept into popular use, that, in some parts of our country, calomel, the panacea of all bilious complaints, is kept as a family medicine and used as freely, without professional advice, as salts are elsewhere.*

The liver seems to be the scape-goat to suffer for all the sins, indiscretions and negligence of eating and drinking, of inaction and exposure.

> "This state of irritation of the duodenum, induced too often by undue quantity or quality of aliment, is that of nine-tenths of the affections termed *bilious*. A person, after having dined heartily on a substance difficult of digestion, is affected with heartburn, distensions, great uneasiness, flatulence and constant eructations; yet, although the cause is manifest, he prefers to have the symptoms ascribed to a predominance of bile, rather than to a circumstance, the belief of which would tend to curtail him, in the slightest degree, of his enjoyments."—p. 26.

Elevated temperature, by rarefying the air, has the same effect upon the respiration as we before said was caused by the air of mountains. The respiration is more frequent and laborious, and the blood less perfectly decarbonized, and the system less invigorated.

> "In this way we may account for the great lassitude and yawning induced by summer heats, as well as for the languor and listlessness, and indisposition to mental and corporeal labour, which are so characteristic of those who have resided for a length of time in torrid climes."—p. 28.

Warm climates are unfavourable to those who are predisposed to diseases of the brain and to scrofula. But they are favourable to rheumatism, to gout, and especially to consumption. The benefit of the warm climate is to be obtained rather by those who are predisposed to phthisis, than by those in whom this disease is already developed. The advantage must be sought and obtained, in advance of this dread disease, to prevent its access rather than as a means of cure after it is in full operation, or even as a means of arrest to its progress when established. While the tubercles are dormant, cold weather tends to irritate them and excite them to action. This may be prevented by removing from the exciting cause to a warm climate. But if active inflammation be already established, if the tubercles be softened and discharging, the effect of a hot climate is to accelerate this destructive process, and hasten the final catastrophe. An eminent physician of New Orleans once informed us, that the most painful part of his professional duty was the care of those consumptive patients whose medical advisers or hoping friends had sent from the north, in the advanced stage of their disease, when too late for restoration or respite: then the heat of that climate only fanned the consuming flame, and hurried the deluded patients to an earlier grave than they would have found in the colder regions which they had left behind.

The effects of cold and heat are perceptible in the secretions. The cutaneous secretions are diminished and the renal are increased by cold; the reverse is the consequence of heat. This is a matter of common observation, and it is noticeable on any sudden change of weather. From experiments performed in South Carolina it was ascertained, that during the six colder months, from November to April, the secretions of the kidneys were to those of the skin as 41 to 29. During the six warmer months, May to October, they were as 24 to 40, about an inverse proportion.

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* We were once, in the south, called to see a teething child of eight months. The mother said she had given the babe fifteen grains of calomel, and then doubted whether to repeat the same dose, as she thought the child *very bilious!* Lancing the gums and no more calomel relieved the babe.

Cold weather is more fatal to old people, and warm weather is more fatal to children. In Massachusetts, during the three years ending April 30, 1844, the deaths of persons over 60 years old were 1738, in the six cold months, October to March; and 1295 in the six warmer months, April to September.* In London, they were 1828, in the summer three months of 1841, and 2948 in the winter of 1841-2. The deaths from old age are more frequent in cold than in warm weather. The London bills of mortality for 1841 give 609 deaths from this cause in summer, and 1043 in the winter months. The proportion for the rest of England is about the same.

Mr. Farr, in his letter to the Registrar-General of England, says: "The causes of death, which proved most fatal in the cold months, belong principally to the pulmonary class and the cerebral diseases of the aged; those which proved most fatal in the summer, belong to the diseases of the bowels: but in almost every class there were one or two diseases, over the fatality of which temperature exercised a marked influence." "Persons affected by the following diseases died in greatest numbers when the temperature was low. It has been already rendered probable, that many cases, arranged under apoplexy and sudden death, are the effects of congestions of the lungs—a sort of spontaneous asphyxia, the development of which appears to be favoured by a temperature below the freezing point of water:†

"Apoplexy, sudden death, paralysis, insanity, tetanus, asthenia, bronchitis, pneumonia, pleurisy, hydrothorax, disease of heart, rheumatism, nephritis, diabetes, dropsy, diseases of child-bed, phlegmon, ulcer, mortification, old age, starvation, violent death."†

Of these diseases there died in cold weather 29,122, and in warm weather 20,754.†

Deaths from diseases of digestive organs, in winter, 1982; summer, 2978.†

The whole mortality of England was for three years, 1838, 1839 and 1840, the greatest in cold months, being during the six months ending with September, 499,005, and during the six months ending with March, 542,137.

In Massachusetts, the deaths in the warmer season predominated, being in the warm months 14,859, and in the cold months, 13,286.

Passing by the pages upon atmospheric changes, which are well worthy of the careful examination of the medical student, we come to a few paragraphs upon the effects of light upon health:

> "A marked influence on the animal economy is exerted by light, which is a healthful stimulant to the skin, as it is a special stimulant to the organ of vision. This stimulation is not felt under ordinary circumstances; but when we leave an obscure place to enter into the bright glare of day, when the brain is affected with any febrile or insane delirium, or the eye with inflammatory excitement, it is strikingly manifested."—p. 51.
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> "Privations of light disposes to rest and inactivity."

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* Reports of births, deaths and marriages of Massachusetts, for the years 1842, 1843 and 1844. This is an imperfect report; the last includes 281 out of the 310 towns and cities; Boston is included in neither. The reports are probably accurate as far as they go.

† Registrar-General's Third Report, p. 104-5.

We wish our author had devoted more time to the examination of this matter, and more pages to its exposition. We believe that light is one of the essential elements of good health, and that the complete development of healthy energy and elastic cheerfulness cannot be obtained without it. Light is not a mere matter of convenience, given to assist man in groping his way about the earth; but its effects, we know not how, upon the nervous system, and hence upon all the other systems of the human body, are manifested in the difference between the health and buoyancy of those who live in open day and those who work in mines. We believe it to be a mistake for workmen to place their shops and families, to put their houses in dark lanes and obscure alleys, where the rays of the sun cannot reach and cheer them. Dwellings and shops well lighted, and especially by the direct rays of the sun, are most favourable to the full energy of life. Heaviness of spirit and languor of the functions follow a disobedience of this law of our nature.

The chapter upon locality seems to us the most valuable in the whole book:

> "The various facts, to which reference has been made, exhibit the powerful influence of situation on the health of mankind, and a wider inspection instructs the anthropologist that the whole physical and moral condition of mankind is modified by climate or locality, so that we may at once distinguish the Esquimaux from the American Indian to the south, the Asiatic from the European, the German from the French, &c., &c." "We are enabled to discover, at a glance, the resident of the unhealthy districts of the low country from the more ruddy inhabitants of the mountain region."—p. 95.

Marshy districts have been universally considered as the fruitful sources of malaria, and of diseases that follow in its train. And some districts, the very opposite in their apparent character, are also teeming with malarious influences. The low and boggy lands, the borders of stagnant waters are supposed to be their peculiar seat. Yet the high and dry, the beautiful and inviting situations are, in many places, subject to the same epidemic scourge. Some of the fairest portions of Italy are thus desolated. The high bluffs on the borders of some of the clear running rivers of the west are visited with intermittents, while in other places the low bottoms, bordering upon the same streams, are exempted. In general, this form of fever seems to retreat before cultivation. It prevails more in the newest settlements of the west; more in the agricultural counties than in the villages; and more in these than in the compact cities. It prevails in the suburbs of Louisville, Ky., up to the very pavement; but it is rarely known to originate within the paved streets. Our forefathers suffered from this disease in New England, now it is not known there. But it may return. In other places, it has vanished before the work of cultivation, and reappeared without any assignable cause. The law of its beginning and continuance is yet to be ascertained.

The bills of mortality in various countries and places exhibit a marked difference in the frequency of death, and in the average duration of life of the people who inhabit them.

The proportions of death to population differ widely in cities and countries, as seen by the following table:

Philadelphia,	1 in 45	Boston,	1 in 41
New York,	1 in 37	St. Louis,	1 in 33
London,	1 in 40	Paris,	1 in 32

Naples,	1 in 28	Amsterdam,	1 in 24
Vienna,	1 in 22	Norway,	1 in 54
Sweden,	1 in 41	Russia,	1 in 26
France, Brittany,	1 in 34	Barses Pyrenees,	1 in 50
Belgium,	1 in 43	Savoy, marshy district,	1 in 28
Savoy, mountainous,	1 in 52	" Average,	1 in 42*

It is not so easy to determine the exact proportion of deaths to the population: for this implies an accurate knowledge of the numbers of the living and the dying. Neither of these are enumerated with sufficient accuracy, in this country, to be reliable grounds of calculations. Our census is very imperfect, and our registration of death is, in most places, entirely neglected—and in very few is it complete. And, however accurately the people may have been enumerated, the movements of population, the increase and decrease must change the basis of comparison, so that it could not be depended upon, during the usual intervals of enumeration.

The age at death,—the average longevity, is more easily ascertained, and is a better means of determining the endemic influences of localities upon life. These two principles, the average duration of life, and the ratio of deaths to population, are not one and the same, though they are often quoted by writers of deserved celebrity as identical. They indicate the same general principle, or healthfulness or unhealthfulness of a place; but the specific part may be widely different. If in a town, containing 8000 inhabitants, 100 die every year, there would be an annual loss of 1 in 80. But it is by no means shown, by this, that the average longevity of these people was 80 years. If none died before reaching their eighty-first year, this would be the case, and the ratio and age would be the same. But if 50 of these should die in the first year and 50 in their eighty-first year—then the average longevity would be 40 years, and the ratio 1 in 80.

Nevertheless, some of the ablest writers upon Life Insurance and Annuities, as well as Dr. Dunglison, have fallen into the mistake of supposing the two principles to be identical.

> "In illustration of this error, take Islington with its population of 55,720, we find the deaths for the year only 1 to every 55 of the population, which would appear to be a high healthy standard: whereas, when we examine the average age of death of all the population, we find it to be only 29 years."†

Bethnal Green showed 1 death in 41, at an average age of only 22 years.

Nor is the average age of the living identical with the average age of the dead. In Liverpool the age of the living was 24 years, while that of the dying was only 17 to 18 years. The excess is not always in favour of the living. In some of the districts of London the age of the living was 35 years, and of the dead 27 years 11 months. In other districts the age of the living was 23 years, and of the dead 26 years 5 months. The average age of all alive in Scotland and Prussia is 27 years. In England 25 years. In the United States, north of and including New York, 23 years. In the Southern States, including North Carolina and Tennessee, and all south, 19 years. In these calculations we have omitted the fractions, which would very slightly vary the proportions.

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* The cities are taken from the Journal of Health, quoted by Dr. D. The countries are taken from the tables of the revenue, population, commerce, &c., of the United Kingdom. Part IV., 1834, page 454.

† Report on Interment in Towns, by Edward Chadwick, p. 240-241.

The average longevity differs remarkably in the various departments of France, the counties of England, and the towns of our own country. The age of all, who died in Concord, Mass., during 63 years, was 38 years 10 months. Dorchester, Mass., for 27 years, it was 32 years 6 months. In Plympton, Mass., during 30 years, it was 40 years 10 months. In the whole state, excluding Boston, 1 year, 33 years 9 months.

The proportion of deaths in infancy and old age, differs greatly in various cities. The per centage of deaths, in the extremes of life, is shown as follows :

	Periods.	Per cent. under 5.	Per cent. over 70.
Boston,	1811–39	39	6
Philadelphia,	1821–30	38	6
Baltimore,	1829–30–31–33	44	5
New York,	1 year	50	3
Massachusetts,	3 years	32	16

A great discrepancy of age is shown among different classes living, side by side, in the same climate and locality. Mr. Chadwick, in his report upon the sanitary condition of the labouring classes, has brought forth facts of this nature, new and astonishing. He found, that the average age, at death, of all the members, father, mother, and children, in families of the rich, was in some places double that of the poor.

	Gentry and professional persons.	Tradesmen and farmers.	Labourers, mechanics, servants.
Liverpool,	35 years	22 years	15 years
Wiltshire,	50 "	48 "	33 "
Whitechapel,	45 "	27 "	22 "

In view of these and similar facts, that show the hard lot of the poor, in Europe, their privations in life, and their early death, our author bursts out into a rhapsody, unusual at least, in scientific treatises.

> "What gratifying prospects are afforded by these estimates to the people of this Union! Blessed as we are, with a government whose sole object must be the happiness and prosperity of the States, and where oppression is impossible. With equal laws, and capability of country such that none need perish through want; but, on the contrary, where each, with due temperance and industry, may enjoy affluence, compared with the wretched lower classes of the old world!"—p. 123.

We would that it were so; but, unfortunately, we have seen no ground for such faith. What our governments, either national or state, have done for the health of the people is a mystery to us. If they have enacted any laws, or taken any measures to prevent the beginning and the growth, in this country, of the lamentable state of things that has been shown to exist in regard to the poor of Europe, they have escaped our notice. They have done almost every thing else; but this they have left undone. They have legislated for property, but not for life. They have cared for the lands, the cattle, the money of their constituents, but not for their health and longevity. They have held out encouragements for people to raise the largest crops, the strongest horses, the fattest hogs, and the most active silk-worms; in short, for the greatest productive power of land or beast, but nothing is done for the great producer, the owner, director and enjoyer of all. Congress has surveyed the public lands, and ascertained how much and what sort of crops can be raised upon them; and urged their fruitfulness as a motive for people to buy and settle upon them; but whether these settlers are to live or to die upon those lands, is not thought worth the inquiry. They have taken pains to inquire at how much cost of capital and machinery, and of labour, horse-power and steam-power, of men-power, mines can be wrought, cloth can be made, and ships can be sailed; but how much cost of life, how much deterioration of health and strength are necessary for these operations, these have not received any examination. Whether our manufacturing population is sinking to the weakness and depravity of the operatives of Manchester, or are yet as healthy and live as long as men and women in other employments; these are matters, which our governments ought to inquire into, but which they have not regarded.

Massachusetts is the only state that has provided for the registration of births and deaths, and the causes of mortality. And even this law is not completely enforced. The enlightened city of Boston pays no sort of regard to it. The only attempt which the national government has made to gather any facts in regard to the sanitary condition of the people, was an inquiry into the number of the deaf and dumb, the blind and the insane, at the enumeration of 1840. And these facts were so carelessly gathered, and faithlessly published, as to be worse than useless. The results of that examination are printed with such manifest contradictions and misstatements as would have put to shame a truant school-boy.*

The same diversity of physical and sanitary condition, which is shown to exist among the rich and the poor of Britain, is also found here in this favoured land. We have examined a few towns, and our facts corroborate those of Mr. Chadwick. The difference of domestic condition and of longevity between the comfortable and the straitened classes is not so wide here as it is there, but it is none the less certain. In Dorchester, Mass., the poor averaged 27 years, and the prosperous farmers 45 years of life. In Concord and Brooklyn a similar difference was shown. This partial dealing of death with his subjects is evinced the most among the children. Among the poor of Dorchester, 32 per cent. of all the deaths were under two years of age; among the richer, only 12 per cent. died at that age. On the other hand, 27 per cent. of the prosperous, and only 9 per cent. of the unprosperous, reached or passed their three score and ten years. These facts show that there is, at least, a field of inquiry almost untouched in America, but which we commend to the paternal care of our government to investigate and ascertain the extent of the evils, and the discrepancies which are found in the three towns above-named.

The chapters upon "winter residence" give a good description of all the places on the globe, which are resorted to by the invalid for health. Here we have, in a condensed form, that knowledge of the sanitary value of these resorts, in the south and in the north. These pages will be extremely useful to the physician in his direction of his traveling patients, and to the patients themselves to guide them in their wanderings in pursuit of health.

We have now only space to notice the chapter upon food. To this subject our author has devoted nearly one-third of his work; and these pages are well bestowed upon this topic. He has treated, with proper contempt, the "unprofitable discussion with some naturalists, whether the organization of man prove him more carnivorous or herbivorous?"

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* See this Journal, vol. vii. p. 71.

> "Although man is so organized as to be adapted for living on both animal and vegetable substances, it is not indispensable that he should be enabled to obtain both. In the frozen regions of the north, vegetable food fails him; whilst in the torrid regions, animal food, if it can be obtained in due quantity, is not relished. Accordingly we find nations and tribes which subsist on animal food almost exclusively, and others, by which an animal diet is rarely, if at all, employed. It is in temperate climates that man is omnivorous. * * *
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> "Scurvy supervenes, whether the restriction be to the vegetable or to the animal. Certain experiments, instituted by Magendie, show clearly, that omnivorous man—omnivorous, that is, from nature and habit,—requires a variety of articles of diet. This he lays down as an important 'hygienic precept;' but it is, of course, inapplicable to those tribes that have been accustomed, from birth, to supply the wants of the body, by a diet exclusively animal or vegetable."—pp. 186, 187.

The elaborate and gratifying experiments of Dr. Beaumont are quoted and referred to by Dr. D. as the basis of his principles of dietetics. So far as these experiments go, they are well; they prove much, but not all, that we desire to know. They convince us, beyond cavil, that in stomachs similar to that of Martin, upon whom the experiments were tried, and in similar circumstances, the same results may be expected. And the same articles of food would be digested in the same time, and with the same ease, as he digested the matters which he had eaten. But as human stomachs and digestive powers differ in different constitutions, and as Martin's stomach and digestive energies may have been modified somewhat by his wound, we are not ready to suppose that this man was a type for the rest of mankind. We wish, therefore, we had many more experiments of the same sort, and those tried upon other constitutions and in other circumstances. Nevertheless we unhesitatingly acknowledge, that Dr. Beaumont has done a good work in his investigations, and deserves the thanks of the profession and the world, for the new light he has given them upon the process of digestion,—a light which, otherwise, might never have reached us.

Cooking is ordinarily considered one of the lowest offices, requiring but little talent and education. It is therefore entrusted to such persons as would not be employed to manufacture our garments. If more skill is provided, it is for the purposes of appetite rather than of health and strength. Cook books are sufficiently abundant; but their object is mostly to pamper the palate, not to aid in the preparations of food which will best nourish the body, with the least cost of digestive power. Few are aware how important judicious cookery is to the health and energy of life, and how much dyspepsia, pain and lassitude is chargeable to the bad preparation of food. We need a reform in these matters, not merely in the kitchens of the luxurious, but in the dwellings of all classes, even in the hovels and cabins of the poorest.

The chapters upon clothing are interesting and instructive, and should be carefully studied by both the professional and the general student.

Bathing is an essential means of health and comfort. This is most sadly neglected. The hands and the face, which are seen of men, receive attentions enough; but the general surface of the body is unwashed, by the greater part of the people, from summer to summer; and by many, after they have passed their youth, the exposed are the only parts of the body that are ever bathed. Beauty and good appearance are, in general, the only motive for the performance of this office, and therefore it is limited to the uncovered skin. But health requires ablutions for the trunk and limbs, as well as for the hands and face.

> "Accustoming the surface to being washed daily, with tepid or cold water, would seem to lessen the tendency, so marked in some individuals, to affections induced by atmospheric vicissitudes, washing the throat or the chest, with cold water, has seemed to diminish the proclivity to inflammatory sore throat, and the different varieties of catarrh."—p. 369.

We wish Dr. D. had spoken more decidedly on this point. We believe, from our own observations and experience, that this daily cold bathing is a protection against the severities of this climate. Where this is done, the circulation of the skin is more active, and the surface more effectually regulates the transmission of the internal caloric.

The domestic bathing room is a matter of luxury, which few families can afford or can be persuaded to indulge themselves with. We do not expect to see this adopted, in the majority or even in a great minority of the houses of our country. But general ablution, with the hands, sponge or towel, is within the means of all, however poor. This should be done daily, winter and summer, with water cold or as cool as the skin can bear, with reactions afterwards.

The other chapters upon exercise and rest, sleep, upon mental occupations, and upon employments, we have not here room even to notice, except to thank the author for them.

We are sorry to see him quote the long list of literary and scientific men and authors who lived to old age, as if they proved any thing. To be of any value, they should give the whole number engaged in these several callings, and compare these with all in other employments. Selected as they are, they only show that some authors live to a good old age, not the influence of their professions upon longevity. The same methods of relation would show a great longevity of every art and calling, to which man has devoted himself. We could select a list of farmers, shoemakers, paupers, and even spinsters, as satisfactory as these, which so many writers have published; and there would be as good evidence of the longevity of these classes.

However, we will not quarrel with a good author on parting, but prefer much to express our general satisfaction with his work.

E. J.

BIBLIOGRAPHICAL NOTICES.

Art. XII.—*A Treatise on the Medical Jurisprudence of Insanity.* By J. Ray, M. D., Superintendent of the Maine Insane Hospital. Second edition, with additions. Boston: Wm. D. Ticknor & Co., 1844, pp. 490.

At the end of some six years, Dr. Ray has issued a second edition of a work, which was written to supply a void in the medical literature of our language on the subject of insanity. His first intention was to have translated the work of Hoffbauer or of Georget upon the medical jurisprudence of insanity; but finding that either of them would require very copious notes to bring them up to the present state of the science and of the laws, he deemed it better to prepare an original work. That which lies before us, is the result of his labours: it certainly draws largely from the above and other French authors, though the author has not neglected the English authorities, and has exhibited, besides, some originality in the views he has presented, or, at any rate, in the manner of bringing them forward.

In the name of truth and humanity he felt called upon to place before the profession an account of the present state of science in relation to insanity, and to point out certain principles for the more uniform and just decision of the delicate and intricate questions involved in the consideration of the legal responsibilities of those labouring under some form of this disease. He would extend to the laws providing for such cases the same ameliorating influence which science has brought to bear upon the medical treatment of the insane.

With a full view of these considerations, with a conviction of the importance of a careful study of the subject, and with an honesty of purpose—as we believe—which deserves commendation, Dr. Ray has presented us in the present detailed book with the results of his labours. If, as we think, his leaning, and the tendency of his work, are rather too much on the side of humanity, falsely so called, it must be attributed to the fact that he was so strongly impressed with the gross inconsistencies which have marked the decisions of courts of common law both at home and abroad, with the entire absence of any fixed principles by which they have been guided, with the absurdity of the tests which have at different times been relied upon as fundamental evidences of insanity, and with the inadequate and often strange testimony which is brought forward to prove the alleged derangement—that, in his earnest endeavour to point out and remedy these defects, he has fallen into an opposite error, which would render the administration of justice and of the law uncertain, and thus aid many a criminal and malefactor to escape the just penalties of his offences.

It is not enough to say in answer to this, as the author does, that "though he (the criminal) escape the sentence of the law, (by the successful pleading of insanity,) yet society is perfectly secure from the effects of mistake, because the very plea by which he obtains his acquittal, consigns him to confinement," p. 261. The author has in this remark evidently followed too closely his European authorities, who well knew that, by the operation of the laws in their countries, such is always the case. But frequent experience shows that in this country a different state of things exists, and that both the laws and the practice are exceedingly loose in this matter. We cannot, therefore, think that he does justice to the cause of truth and humanity, when he is contented, in a work of the pretensions of that before us, with merely hinting in such general expressions as the above, (for nowhere do we find any more explicit or stringent in its pages) at a great principle in jurisprudence. His duty was to have enforced it with his fullest powers, to have demanded its recognition in the name of humanity, and to have impressed upon the profession, and through them upon the legislators of the different states, the absolute importance and necessity of providing institutions, where both the lunatic and those who are acquitted from crime as such, may be safely guarded and cared for, so that those who are really suffering may reap the benefit of medical attention, while the criminal may be restrained from his criminal acts.

Other blemishes might be pointed out, particularly some of the "modern instances" which appear in the present edition, as illustrative of some of his positions, as the Mercer case—in which insanity had certainly very little to do either with the crime committed or with the verdict of acquittal. We cannot but think that these must detract from the authority of the book, which in other respects is deserving of high commendation.

A brief sketch of the contents will show how thoroughly and extensively the subject of insanity is studied in this volume, and will enable us to point out some of the valuable suggestions which it presents for the improvement of the laws and of the practice of the courts.

The medical jurisprudence of insanity involves two very important questions, the civil and criminal responsibilities of the insane; the former applying to the validity of wills, contracts, &c., and to the management of property; the latter, to the amenability of the insane to the penalties of the law for acts, which, if committed by the sane, would be crimes. The author, in his preliminary chapter, passes under review the legal enactments and decisions of the courts of various countries upon these questions, showing that they have been, and in many instances are still, essentially defective in guarding the interests of the insane on the one side, and of the relatives and of society on the other; that the attempt to lay down any single test of responsibility, which shall afford a rule for its determination, like the attempt to characterize any other disease by a single symptom, is absolutely impracticable; that neither the knowledge of good and evil, of right and wrong, nor the power of design and contrivance, nor delusion furnishes that test; that, in fact, the decision must be made from the concurrence of several symptoms, as in any other disease. Still the frequency of the plea of insanity in defence of crime, and the momentous and perplexing interests which this plea involves, demand some fixed and definite principles, as a guide to the decision of these cases, and which should receive the sanction of legal enactment.

Some uniformity, says Dr. Ray, might be attained, and the ends of justice thus as adequately promoted, perhaps, as possible, were some such enactment as the following passed in every state: "No act done by a person in a state of insanity, or any other condition of mind in which the person is involuntarily deprived of the consciousness of the true nature of his acts, can be punished as an offence; provided, it cannot be proved that the act was not the offspring of the insanity."—p. 53.

It is true, however, that the law can only lay down general principles, the application of which must be left to the discretion of the judicial authorities; for each case will present peculiarities which will compel its decision chiefly on its merits. We do not, however, think that the above provision, wise and proper as it is, is all that the law can do; and we are clearly of the opinion, that as by its terms it declares that no punishment can be inflicted upon the insane, it should also direct that the individual should be so placed that he cannot repeat his offence, and should have the benefit of proper medical treatment.

The law having settled the general principle of responsibility, the question of the existence of insanity in a particular case remains to be decided, and that too by a jury composed, as it generally and almost necessarily is, of men who are entirely destitute of that intellectual training and acuteness which would enable them to penetrate the intricate and, in many cases, almost undistinguishable shades of mental alienation. It is, therefore, the duty of the law to see that every opportunity be given for the full and just examination of the case of alleged insanity by the introduction of witnesses competent to testify. Now it is a notorious fact to all who read the evidence given in such cases, that medical men, in general, however able and well-skilled in the practice of their profession, are not thereby necessarily qualified to speak authoritatively in cases involving the question of insanity, with which they can in general have but little experience, unless they are at the head of establishments for the reception of this unfortunate class of patients. They, besides, know perfectly well, that if they pronounce a man not to be insane, the jury which looks to them for instruction, will be guided by their opinion, and it is natural that, when they feel doubts themselves,—and they will be too apt to feel them in consequence of their inexperience,—they will give the benefit of them to the accused, and thus defeat the ends of justice.

To this there are two remedies, borrowed from the practice of some of the European countries, and especially France, and which have been adopted, we believe, in Massachusetts. Their general use is ably advocated by our author in the work before us. They are, in the first place, the appointment of *experts*, or experienced men as witnesses, who shall examine and report under oath upon the condition of the party accused, as to mental or moral soundness. They should be selected from among those at the head of lunatic establishments, who are in the habit of observing the unfortunate victims of insanity, and are, in consequence, enabled to speak knowingly and authoritatively upon such cases; and they should be liable to be called upon to hold a species of medical inquest, in order that they may be able to instruct the court, and to remove from the minds of the jury, by their report, any doubts which may exist.

In order, however, to enable them so to speak, the second point should be attended to. They must have every proper opportunity to satisfy themselves of the condition of the party under examination; which may be effectually given by enabling them to adopt any one, or, if necessary, all the following forms of inquiry, which are used in France, viz.: the interrogatory, "embracing those means of information which are applicable in a personal interview;" continued observation, consisting in a systematic course of observations continued for some time, as by frequent visiting, watching at times when he supposes himself unobserved, and attention to all he says and does; and an inquest, which is applicable when the others fail, being an inquiry from friends, relations, business connections, &c., into the whole history of the individual, both before and after he manifested what was considered insanity.

By the use of the means here suggested, there can be little doubt that the administration of strict justice will be rendered more certain in all cases of doubt and difficulty. It is better to delay a decision until the *experts* can make up their minds, than by hurrying it to compel them to throw their doubts in favour of a party accused.

We have, in the above remarks, departed from the order of the work, to which we will, in conclusion, only recur to say that Dr. Ray adopts, with slight modifications, the classification of Esquirol in the study of the diseases under consideration. After dwelling with much detail upon the various forms of idiocy, imbecility, mania and dementia, explaining their character and the legal consequences of each, he enters, in as many different chapters, into the examination of delirium, the question of the duration and curability of insanity, of the nature of lucid intervals and the responsibility during them, of simulated and concealed insanity, of epilepsy, suicide and somnambulism, of the effects of insanity upon evidence, of drunkenness, and of interdiction and isolation, so far as they apply to the civil rights and relations.

Upon all these subjects, full information will be found, conveyed in an intelligible manner, and generally enforced by apt illustration and by the authority of some modern writer, or by the author's personal experience, which he has had ample opportunities of acquiring. C. R. K.

Art. XIII.—*Third Annual Report to the Legislature relating to the Registry and Returns of the Births, Marriages and Deaths in Massachusetts, for the year ending May 1st,* 1844. By John G. Palfrey, Secretary of the Commonwealth. Dec., 1844, pp. 110, 8vo.

This document presents the fruits of the law, which we have before referred to, (see No. of this Journal for July last, p. 190), as reflecting such high credit upon the state of Massachusetts; a measure which places her far above the other states of the Union, for no where else on this side of the Atlantic do we find, out of the large cities, any provisions by which the number of marriages, births, and deaths may be ascertained.

Births.—In a population which in 1840 amounted to 537,319, there were in the year ending May 1st, 1844, 14,439 births, being 1 to 37.28 of the population, a proportion which is considered too low by one-fourth. It is much less than the proportion in some of the towns, where, it is inferred, greater correctness has been observed. The average proportion of births to population in England for the four years, from 1837 to 1841, is 1 to 32. In the Prussian states, it is calculated that in the 15 years (1820 to 1834), there was one child born to about 25 persons living. "We may presume," says the reporter, "that there is annually on an average in Massachusetts, 1 child born to about 25 persons according to the census of 1840; on this supposition the number would have been 21,675 in these 263 towns, instead of 14,563, which is only two-thirds as many."

The whole number of living children born in 288 towns, (including some not embraced in the former estimate,) was 14,757, of whom 7399 were males, and 7042 females. In 316 births reported, the sex was not stated. The proportion of females to males is 100 of the former to 105.07 of the latter. Comparing this result with that obtained by observation in the Prussian states, during the fifteen years from 1820 to 1834, where no less than 7,593,017 births are embraced in the estimate, there is a remarkable correspondence, the female births in Prussia being in the average proportion of 100 to 105.97 males. A long series of observations in Philadelphia gives the excess of males at birth over 7 per cent. (*Vide* Dr. Emerson's Medical Statistics, Am. Journ. of Med., Nov., 1831.)

"The proportion of plurality cases to the whole number, 1 in 121 in the returns from the 288 towns, is considerably less than is found to prevail in other countries, and is less than is believed to prevail in this country. This proportion, perhaps, would have been increased had the returns been complete. One physician in this country has attended 1600 cases, of which 1 in 90 was a plurality case. Dr. Collins, in his Practical Treatise on Midwifery, p. 186, says, that in France the proportion is 1 in every 95 births; in Germany, 1 in 80; in England, 1 in 92; in Scotland, 1 in 95; but in Ireland, the proportion is 1 in every 62. Of 129,172 women delivered in the Lying-in Hospital of Dublin, 2062 gave birth to twins."

Marriages.—The 289 towns from which returns of marriages have been received, contained a population of 600,680 in 1840. The number of marriages was 4304, being 1 in 138 inhabitants. This is believed below the truth, as in England, where the proportion of marriages is doubtless much less, but where the returns are more accurate, the average of marriages to inhabitants was in three years (1838 to 1841) 1 in 127; and in the metropolis alone as much as 1 in 101.

Deaths.—The whole number of deaths reported is 8338, exclusive of stillborn. This is, assuredly, much too small an amount in a population of 578,653, being only 1 death in 70. The proportion in England in the three years, from 1838 to 1841, was 1 in 45 of the population. The deaths of females in Massachusetts exceeded those of the males 461; the aggregate was 8338, of which 3712 were males, 4173 females, and 453 not designated.

"Of the 8338, the ages of 7723 are on the returns, whose aggregate is

260,622 years, 7 months and 20 days, averaging 33 years, 8 months and $28\frac{5146}{7723}$ days. The average age in the several counties, as well as in the several towns, is various. This result as to the average is not to be taken too strictly, but only as an approximation, or to be regarded as accidental, and not necessarily indicating a healthy or unhealthy section of the commonwealth. The average age deduced from the registered deaths in England for four years ending June, 1841, was 28.93 years. In the Prussian States it was 28.86.

"The returns would seem to indicate that the months of August and September were the most fatal to human life, and that April, May, June, and July were the most favourable."

Occupations.—The number of deaths registered under most of the occupations is too small to furnish an average age which can be considered as even an approximation to the truth. But, as the reporter observes, if a similar registration should be pursued for a series of years, the accumulation will afford valuable data for this calculation.

"Already a sufficient number have been registered, of a few of the occupations, for establishing a very near approximation to the actual average age; an example is in the class of farmers or yeomen, including gardeners, of whom the number whose age is stated in the three years is 1995, whose approximate average age was 65.47 years."

When the mortality is viewed in reference to the seasons, it appears that the greatest occurred in the month of September, (3051,) and the least in June, (2021;) that the three successive months in which the mortality was greatest, were August, September and October, (8491), and that it was least in May, June and July, (6368.) It also appears that more than one-third die before the tenth year of age.

Deaths from Consumption.—More than one-fifth of all the deaths are marked "consumption."

If, from the whole number reported under this head, we reject all except those which occurred between the ages of 10 and 50, there will remain about one-ninth as the victims of what may be regarded tubercular phthisis. The difference between the numbers of males and females is worthy of note, the latter exceeding the former by one-third.

The deaths from consumption were most frequent in the mild months of May and September, and the smallest number occurred in the cold months of November and January. This appears to have been the case not only for the aggregate of years, but also for each individual year,—a fact at variance with common opinion.

The following tabular statement shows, in an interesting manner, the deaths from some of the principal classes of diseases, as distributed among the months:—

MONTHS.

DISEASES.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March.	April.	Not Stated.	Total.
Respiratory Organs,	606	522	510	493	528	552	515	613	584	613	722	669	533	7476
Digestive Organs,	83	90	111	239	226	135	83	75	78	84	86	96	171	1557
Epidemics, &c., -	336	329	377	673	804	626	441	343	373	362	394	325	514	5897

From this table it will be seen, that "diseases of the *Respiratory Organs* constitute more than one-fourth of the whole, and prove fatal most in March, (722,) and least in August, (493.) The three most fatal successive months were February, March and April, (2004;) the three least, June, July and August, (1525.)

"Diseases of the *Digestive Organs* constitute less than one-eighteenth of the whole, and prove most fatal in August, (239,) and least in December, (75.)

In successive months most deaths occur in August, September and October, (600,) and the fewest in November, December and January, (236.)

"*Epidemic* and *Contagious* diseases constitute more than one-fifth. They are most fatal in September, (3051,) and least so in June, (2021;) or in three months we have most in August, September and October, (2013), and the fewest in April, May and June, (990.)"

There remain some obstacles in the way of obtaining correct information upon the subjects embraced in Mr. Palfrey's report, which the enlightened gentlemen who regulate the affairs of Massachusetts will doubtless overcome in due time. The present age owe them much for what they have accomplished, and the promising commencement will lead to the most valuable results. May other states soon follow the example of Massachusetts, by making provision for similar reports. G. E.

ART. XIV.—*The Sanitary Condition of the labouring population of New York, with suggestions for its improvement. A Discourse (with additions) delivered on the* 30*th December,* 1844, *at the Repository of the American Institute.* By JOHN H. GRISCOM, M. D., Fellow of the College of Physicians and Surgeons; Physician of the New York Hospital; late Physician of the City and Eastern Dispensaries. New York, 1845, pp. 58, 8vo.

THE matter embraced in this pamphlet, was originally addressed in the form of a letter to the chief magistrate of the city of New York. The principal aim of the author in its preparation, was an exposition of the true principles which should regulate the action of public bodies, in matters relating to the health of cities. The importance of the facts set forth by Dr. Griscom, together with the value of his suggestions, were fully acknowledged by the mayor, who transmitted the communication to the city councils, recommending it to their serious attention. After several weeks deliberation upon it, the committee to whom it was referred arrived at the conclusion, embodied in the following language, quoted from their report: "Your committee do not profess to be judges of the subject, or, in other words, they do not think it proper at this time, to go into such a measure," and they recommended that the paper be returned to its author.

We are not at all surprised that the majority of the city magistracy should have felt themselves embarrassed by the charge of a subject which has been so overlooked as to be only duly estimated by very few individuals. Public intelligence has not yet been raised to the point when it can recognize the importance to the cause of true humanity, and the pecuniary interests of communities and States, of adopting all the means necessary to procure and maintain good health among the labouring classes. When some direful pestilence sweeps over a city, then the magistracy think it incumbent upon them to set to work, and, as far as possible, remove the causes which may tend to foster its extension, or favour its ravages. Authority then acts, as though unlimited, seldom hesitating to consult individual rights, in furtherance of measures calculated to promote the good of the public. But in ordinary times, the work of death is suffered to go on as it may, and its agents, almost overlooked by the public, are allowed to operate gently in the destruction of thousands, and tens of thousands more than fall beneath the sythe of pestilence.

When a plague makes its appearance, every individual thinks it at his door, and feels personally interested in the protection of himself and family. Hence the general excitement and the prompt action. Few persons have a notion that legislation for the preservation of health in the poor and labouring classes is any part of public duty, which seems confined to measures for taking charge of them only when reduced by actual disease to helplessness. As if prevention, whenever it may be accomplished, was not infinitely more advantageous to the cause of humanity as well as to public economy. We entirely concur with Dr. Griscom in the following views: "No duty can engage the attention of the magistracy of a city or state, more dignified in itself, more beneficial to the present generation, or more likely to prove useful to their descendants, than that of procuring and maintaining a sound state of the public health.—As upon the condition of health of an individual are based his physical and mental strength, his ability for self-maintenance, his personal happiness, and that of others dependent on him, and also his usefulness to his family, to the community and his country; and as the community depends for its prosperity upon the performances of its members, individually and collectively, in the measure of influence committed to them respectively, so does the health of the people affect the capacity and interests of the state."

As upon the individual, when sick, falls an increased pecuniary burden, with (in general) a suspension of income, so upon the state or city must rest, not only the expenses of removing an unsound condition of public health, but also, from the attendant loss of character, a diminution of its resources.

When individuals of the pauper class are ill, their entire support, and perchance that of the whole family, fall upon the community. From a low state of general health, whether in an individual or in numbers, proceed diminished energy of body and of mind, and a vitiated moral perception, the frequent precursor of habits and deeds which give employment to the officers of police and the ministers of justice.

Those who have interested themselves in statistical investigations relating to the mortality of cities, find an immense disparity in the proportions reported from different sections or localities, always demonstrating that the deaths, and of course the sickness and physical disability, are by far the greatest in the abodes of the active operatives.

In regard to the necessity of legislation in order to secure the poorer classes from that excess of sickness and mortality which now falls to their hard lot, we long since expressed our opinion, in an article upon the Medical Statistics of Philadelphia, published in this journal (November, 1831). It is highly gratifying to us to find that nearly fifteen years after they were published here, our views have been brought before a commission appointed by the British Parliament for inquiring into the state of large towns and populous districts. The London Medical Times for January, 1845, in an article upon "Public Health," analyzes the report of the commissioners, and thus refers to our investigations and conclusions.

"Our space does not allow us to cite at length the passage which Dr. Arnott extracts from the Medical Statistics of Philadelphia, by Dr. Emerson. Fever, in some of its forms, is almost universal among the inhabitants of the undrained and unimproved outskirts, but of rare occurrence in the central parts, which are well paved and drained; 'by far the greatest proportion of the annual sickness and mortality of ordinary seasons, furnished by the narrow and confined alleys and courts existing in various parts of the town:' 'the difference though sufficiently obvious in adults, most lamentably conspicuous among children;' deaths, from cholera, rare in houses with large and well-aired apartments; the influence of meagre and unwholesome food, and immoderate indulgence in strong liquors, though usually mentioned as the chief causes of the excessive mortality of the labouring class, insignificant when compared to that of breathing air that has been previously expired, and which, moreover, is commonly charged with animal and vegetable effluvia;—these are some of the points touched upon; and they confirm the opinions of all who have inquired into the condition of our large towns.

"Before we dismiss Dr. Emerson, we must quote his opinions on the necessity of legislative interference in behalf of the health and lives of the labouring class. If a citizen of the *soi-disant* land of liberty *par excellence*, can contemplate without a shudder such interference with, what the *laissez faire* school are in the habit of calling, the rights of property, then our consciences may be more at ease when we proceed to take measures to restrain our own landlords. 'The numerous instances,' says Dr. Emerson, 'wherein the mercenary calculations of individuals have tempted them to put up nests of contracted tenements in courts or alleys, admitting but little air, and yet subjected to the full influence of heat, have often induced us to wish that there could be some public regulation by which the evil might be checked. Mankind have inhabited cities long enough to know from severe experience, that there are certain limits to the denseness of population, which, when passed, always lead to disease and mortality. As we think every thing tending to the preservation of public health must be a fit subject for legislation, we do not see why a law should not be procured by which the undue crowding of population might be prevented, and the number and size of dwellings adjusted to superficial limits. There are, at present, municipal regulations intended as a protection against conflagration, by designating the materials of which houses shall be constructed: and if such precautions be deemed so important when property is the consideration, of how much more consequence would be those for the preservation of health and life.'

"So," resumes the London writer, "thought the framers of the new Building Act, which makes provision for the future; and so must think every humane and reasonable man as regards the houses of the poor now in existence. Existing evils must be remedied, as well as future ones guarded against. Our Punderson's Gardens and Lamb's Fields, our Liverpool cellars and courts, must be looked to. The operation of the new Building Act will be too slow to meet such pressing abuses.

"Having quoted the opinions of an American physician in favour of legislative interference between the landlord and the tenant, we will support them by a passage to the same effect from a recently-published work on the mortality of Brussels, by M. Ducpetiaux, of which some account was given in the *British and Foreign Medical Review*, January, 1845:—'People will, perhaps, urge as an objection to our plans (for the improvement of the condition of the houses of the poor,) the necessary interference with the rights of property. But is our respect for the rights of property to be carried so far as to endanger the public health and security? The rights of the proprietor are necessarily limited by the rights of society. That limit is inscribed upon nearly every page of our law. Why does it not also exist for the speculator who lets his houses to the workman and indigent? We impose rigorous conditions on the sale of commodities; we confiscate, without hesitation, meat of bad quality, putrid fish, adulterated liquors, and bread below the legal weight; and we not only confiscate these things, but we punish their owners. By what strange contradiction do the proprietors of these hideous dens, these infectious holes—to inhabit which is at least as dangerous as the use of the most unwholesome food—not only remain unpunished, but continue to enjoy a peculiar protection, and a sort of privilege, inasmuch as they are exempt from the greater part of the conditions imposed upon other proprietors. If we forbid the sale of arsenic, &c., why do we allow a host of wretched beings to perish by slow poison in the unwholesome habitations in which they are necessarily confined?'

"Thus is it that from every side we hear the same complaints of the wretched habitations provided for the poor, and the same representation of the necessity for legislative enactments to correct the present and prevent the future evil. America joins with Europe in the demand that the health and lives of the poor shall no longer be made the sport of avarice or negligence. Take courage, then, ye timid statesmen; rouse yourselves, ye torpid victims of the system of *laissez faire;* put forth your utmost strength, ye working aristocracy of rank and intellect; there is work for you to do, and more honour to be won in doing it than in a thousand victories by sea or land. The pestilence is no unworthy foe, for it destroys every year more than twice as many as fell in the battle of Waterloo. Be it your task to overcome it, and to gain a victory worthy of a Christian nation."

It appears, by the reference to the new "Building Act," that in London something has been already done towards regulating the construction of dwellings in order to promote the health of their occupants.

The objects of Dr. Griscom's communication, briefly stated, are these: 1st, to show that there is an immense amount of sickness, physical disability, and premature mortality, among the poorer classes;—2d, that these are, to a large extent, unnecessary, being in a great degree the results of causes which are removable; 3d, that these physical evils are productive of moral evils of great magnitude and number, and which, if considered only in a pecuniary point of view, should arouse the government and individuals to a consideration of the best means for their relief and prevention; 4th, to suggest the means of alleviating these evils and preventing their recurrence to so great an extent.

Referring to the baneful influences to which a large class of the most active inhabitants of New York, as of other cities are exposed, Dr. Griscom observes, "Our people, especially the more destitute, have been allowed to live out their brief lives in tainted and unwholesome atmospheres, and be subject to the silent and invisible encroachments of destructive agencies from every direction, without one warning voice being raised to point to them their danger, and without an effort to rescue them from their impending fate. Fathers are taken from their children, husbands from their wives, 'ere they have lived out half their days,'—the widows and orphans are thrown upon public or private charity for support, and the money which is expended to save them from starvation, to educate them in the public schools, or, perchance, to maintain them in the work-house or the prison, if judiciously spent in improving the sanitary arrangements of the city, and instilling into the population a knowledge of the means by which their health might be protected, and their lives prolonged and made happy, would have been not only saved, but returned to the treasury in the increased health of the population, a much better state of public morals, and, by consequence, a more easily governed and respectable community.

"Sanitary regulations affect the pauper class of the population more directly than any other, because they live in situations and circumstances which expose them more to attacks of disease. They are more crowded, they live more in cellars, their apartments are less ventilated, and more exposed to vapours and other emanations, &c.; hence, ventilation, sewerage, and all other sanitary regulations, are more necessary for them, and would produce a greater comparative change in their condition. The influence of drainage upon the health and lives of the population, is too well known to require, at this day, any argument.

"The investigations to which I have briefly alluded, as so necessary and desirable for this city, have been carried on in other countries, with a degree of enthusiasm, sustained by talent and learning, which does honour to Philanthropy. No one can rise from the perusal of the works of Edwin Chadwick, of London, or of Parent Du Chatelet of Paris, or of many others who have laboured in this field of humanity, without feeling a portion of the ardour which inspires them, and wishing he had been thrown into the same pursuit, that some of the leaves of the same laurel might encircle his own brow. It is the cause of Humanity, of the poor, the destitute, the degraded, of the virtuous made vicious by the force of circumstances, which they are now investigating, and exposing to the knowledge of others.

"It is often said that 'one half the world does not know how the other half lives.' The labour of raising the veil which now separates the two halves, by which the misery and degradation of the one, have been concealed from the view of the other, has been theirs and their associates. Howard, called by distinction *the Philanthropist*, revealed to the gaze of the astonished multitude the interior of the prisons of England, and straightway the process of reform commenced in them, and continued until the prison system of the present day has become one of the most striking examples of the spirit of the times. But Chadwick and Du Chatelet, especially the former, are diving still deeper into the subject of moral and physical reform. They are probing to the bottom the foul ulcers upon the body of society, and endeavouring to discover the causes of so much wretchedness and vice, which fill the prisons and work-houses. Howard's labours tended to *cure* the disease, Chadwick's to *prevent* it. These operations constitute a highly important part of the great work of melioration and improvement, in the condition of mankind, now going on, in nearly all civilized countries, and which characterize the present age.

"If not on a par, in importance, with the improvement in education, which has of late made such rapid strides, it certainly is second only to it, and indeed it may well be questioned, whether improvement in the physical condition of the lower stratum of society, is not a necessary precedent, in order that education of the mind may exercise its full and proper influence over the general well-being. Teach them how to live, so as to avoid diseases, and be more comfortable, and then their school education will have a redoubled effect in mending their morals, and rendering them intelligent and happy. But without sound bodies, when surrounded with dirt, foul air, and all manner of filthy associations, it is vain to expect even the child of education to be better than his ignorant companions, if indeed you do not, by educating him, give him an additional weapon, by which he may prey more successfully upon his fellows."

The topics chiefly discussed by Dr. Griscom, in connection with the subject, are the following: Distinction between Public Health and Individual Health. System of Tenantage of the poor. Arrangements of dwellings of the poor. Cellars as residences, and their influences. Ventilation, and amount of air necessary for each person. Number of sick paupers, and greater proportion of females. The Prevalence of Scrofula. Respective influences of food and air. Numbers dying at certain ages. Comparative chances of life in different occupations. Government a party to the degradation of its subjects. Influence of ill health on morals. Dependence of the community on the labour of its members. A new arrangement proposed for a City police, with the proper duties of a Sanitary Police. Fresh air regarded as a preventive of intemperance. Sewerage—Burial places, &c.

We give the following extract from Dr. Griscom's address, as embodying his views in relation to a Sanitary Police, the general benefits of securing proper ventilation, and some of the means proposed for effecting the hygienic objects.

"A sanitary police, composed of such individuals as are herein suggested, would constitute an efficient corps of *Health Missionaries*. Their time would be principally devoted to the purpose of teaching the poor the rules which should regulate their household operations; and the value of fresh air, ventilation, cleanliness, temperance, &c., would form constant themes for them. The circulation of Tracts on Health, distributed with the same freedom as religious tracts now are, by hands equally interested in the comforts and condition of the poor, would form a powerful addition to their means of usefulness. The Dispensary Physician wields, for these purposes, a power possessed by no other class of men.

"To the habits of life of many of the labouring classes, to their confinement in small apartments, and to *their ignorance of the laws of life and health*, by which especially, even their contracted arrangements are unnecessarily kept in a bad condition, we are to look for no inconsiderable amount of the injury which they sustain. The moisture, filth, and confined atmosphere of the courts and alleys, are also prolific sources of disease; in the occupations of many lurks the enemy. But if we restrict our attention to them, we shall overlook a very large proportion of the causes of mortality, and with all our efforts to improve the sanitary condition of our city, we should fail in some of the most essential points. A well-regulated and efficient health police might do much towards correcting the existing evils, but to carry the desired reform to the utmost limit, and with a greater permanency, measures which no police can carry out, are necessary. And as these evils are not confined to the labouring and destitute part of our population, but afflict also the wealthier portion, a more healthy state of public opinion is absolutely necessary, to effect the desired results.

"*This can best, if not only, be done, by making physiology, as applied to the laws of life, and the prevention of diseases, a subject of study in all our private, public and common schools.* The children who attend these, especially the latter, are the individuals by and with whom, the important change of opinion and habit, is to be wrought, if at all. It is needless to say to an ignorant adult, apparently free from sickness, that he lives, works and sleeps, in too confined an atmosphere—he will answer that he is well enough, a change would be irksome, and cost money, and he will not believe what you say, for he cannot be easily made to understand the importance, or even the right use, of air. But bring up his child in a knowledge of the value and necessity of pure fresh air, by teaching him the relations which it bears to the blood, the digestion and other functions—teach him never to fear it, that it is his immediate and incessant source of life and health, give him a knowledge of the diseases and dangers to which its absence will subject him, and think you he would not avoid its impurities as he would poison or the pestilence? In his school-room, his sitting-room, his chamber or his work-shop, he would seek for a pure, clear atmosphere, as when thirsty he would seek the cool water, as the weary 'hart panteth after the water brook.' 'Ventilate, ventilate,' would be his natural demand, in tones of earnestness proportioned to the necessity which his expansive lungs, and ever-freshened feelings would readily discover. The humble tenement of the labourer would then, though but a single room, be no longer shut night and day, unvisited by the refreshing air of heaven; the workshop would then no longer be a close receptacle of foul effluvia of human and other origin, and our churches, public-rooms and lecture halls, be no more unventilated."

Nothing effectual will ever be accomplished in regard to these matters until the subject has been agitated again and again, by individuals alive to its great importance. The startling facts in relation to the blighting influences existing in places where numbers of human beings are brought together within narrow limits, are revealed through the labours of the Statistical investigators. The developments made by these are at first noticed as matters of interest by the general inquirer, and at last seized upon by the philanthropist, who finally brings them under the notice of the legislator. Where individuals have been led forward by a laudable zeal for the cause of humanity, it is truly astonishing how much can be accomplished by their means. We have just received a thick octavo pamphlet containing a report made to the Legislature of Pennsylvania, which shows that the authoress, Miss Dix, has actually visited every one of the fifty-eight counties in the State, and described the condition of the Prisons and Alms Houses in each. Had the Legislature appointed a Commission for such a purpose, it would doubtless have required years of time, and the expenditure of considerable sums of money to have collected the information here presented by a single philanthropic individual, and that individual a lady, actuated by motives of pure benevolence, and subjecting herself to fatigue, exposure and pecuniary expense, for the sole reward of ameliorating the condition of the poor and afflicted who have no means of helping themselves.

G. E.

ART. XV.—*Die Neuesten Entdeckungen in der Materia Medica, für praktische Aerzte geordnet, von* DR. JOHANN HEINRICH DIERBACH, ausserordentlichem Professor der Medicin zu Heidelberg, mehrerer gelehrten Geseleshaften Mitgliede. Zweiter Band. Heidleberg und Leipzig, 1843.

The latest Discoveries in the Materia Medica, arranged for Practitioners of Medicine, by JOHN HENRY DIERBACH, extraordinary Professor of Medicine at Hiedleberg, member of several learned societies. Second volume, &c.

This is a book of more than 1300 closely-printed octavo pages, professedly restricted to an account of the latest discoveries in Materia Medica, including new medicines, and new modifications and applications of those before used. But to give a just idea of the elaborate character of the work, and the truly German industry exhibited in its production, it should be stated that this is only one of a series of volumes upon the same subject, of which the first appeared five years previously, and a third, which the author only hopes may be the last, is yet to come. Not having seen the first part, we are unable to give an opinion of the entire plan, though the author expressly states that the present volume is in itself a consistent whole.

After an elaborate catalogue of all the very numerous recent treatises, European and American, upon Materia Medica and its several branches, the author enters upon his subject with an account of the newly recommended vegetable remedies, indigenous or cultivated in Germany. These he distributes into the several subdivisions of 1, the Amygdaleæ; 2, the Rosaceæ, Umbelliferæ, Compositæ, &c., distinguished by their diaphoretic or diuretic action; 3, plants of various natural families recommended in the treatment of the cachexia and intermittent fevers; 4, plants recommended in diseases of the organs of sense; and 5, vegetable remedies recommended in hydrophobia, and the bites of poisonous snakes. The reader may possibly discover in this arrangement some principle of connection which has escaped our penetration.

The second grand division is devoted to vegetable remedies of foreign origin, under which head the author, changing his scheme of classification, treats *first* of roots, *secondly* of barks, *thirdly* of stems, leaves, and flowers, *fourthly* of fruits, seeds, and other products, and *fifthly* of sea-weeds capable of forming a jelly.

In the third division the new chemical preparations are noticed, under the several heads of 1, those of animal origin, 2, vegetable principles not alkaline, and 3, organic bases. When on the subject of the vegetable alkalies, the author takes occasion to treat also of the crude medicines which afford them, as of nux vomica under strychnia, and of opium under morphia. To the latter of these drugs he devotes much space, and, in his account of it, does not by any means confine himself to the newly proposed applications of the remedy.

The fourth division includes "recent experience in relation to the operation and medicinal powers of various narcotic plants belonging to the family of the Solaneæ," among which the Hyoscyamus, Belladonna, Stramonium, and Tobacco are especially considered. There seems to be no very obvious reason for departing, in relation to these medicines, from the arrangement which the author adopted in relation to opium. Like that narcotic, they owe their virtues to peculiar organic alkalies, and have an equal claim to a position in the preceding section.

In the fifth division the alkaline salts are brought under notice; in the sixth, iodine and its preparations; in the seventh, metallic substances; and with these the work closes.

If a discoverable principle of association between the several parts of the work is wanting, the deficiency is in great measure supplied by an Index; a most valuable portion of most modern treatises, which enables the author to indulge to the utmost his peculiar notions of classification, or to neglect classification altogether if it so please him, without any very material inconvenience to the learner.

The author has most industriously collected information from a vast number of sources, American as well as European, giving at full length the facts and opinions of the writers whom he cites, and not unfrequently adopting their language. He seems to have aimed less at producing a compact, well-digested and original work, than to collect a great mass of raw material, upon which others may exercise their skill in selecting, shaping, polishing, and arranging. It would be quite impossible to give, in a brief bibliographical notice, an analysis of the contents of a treatise like the present, embracing so great a variety of matter, so loosely connected. We must content ourselves with the brief outline above given, assuring the reader that the book is copiously stored with materials of all grades of value, and that not only those in search of important practical information, but the curious also, and those fond of novelty for its own sake, will find in its pages abundant means of satisfying their several wants.

G. B. W.

ART. XVI.—*Report of the Trial of Abner Rogers, jr., indicted for the murder of Charles Lincoln, jr., late Warden of the Massachusetts State Prison, before the Supreme Judicial Court of Massachusetts, holden at Boston, on Tuesday, January 30th*, 1844. By GEORGE TYLER BIGELOW and GEORGE BEMIS, ESQS., Counsel for the defendant. Boston, Charles C. Little and James Brown, 1844: pp. 286.

THE prominent points of the case reported in this truly valuable work are as follows. Abner Rogers, jr., was a convict, for the second time, in the Massachusetts State Prison. He was employed in the manufacture of matresses, and up to the time of 15th June, 1843, his health had been such as to enable him to continue at work, doing his daily quantity of labour. For several days previous to that date, his conduct had been so singular as to attract the notice of those around him, some of whom believed him to be really labouring under an attack of mental alienation, and others supposing him to be feigning it.

On the afternoon of the 15th of June, Mr. Lincoln, the Warden of the prison, accompanied by another person, entered the shop in which, with others, Rogers was at work, when the latter, seizing a shoe-knife, rushed towards Lincoln, stabbed him in the back and inflicted a deep wound in the side of his neck, such as to produce death.

After a full, apparently fair and equitable trial, the verdict in the case was "NOT GUILTY, BY REASON OF INSANITY."

Although Mr. Lincoln, upon whom the homicidal act was committed, and Dr. Walker, the physician of the prison, both of them men of no inconsiderable experience, concurred in the belief that Rogers was simulating insanity, yet the testimony elicited during the trial is such as to convince every one who has been much conversant with the phenomena of mental diseases, of the righteousness of the verdict. The sequel of the history of the prisoner has proved it to be so. He was removed to the Massachusetts State Lunatic Hospital, at Worcester, where he remained, evidently insane, several months, and finally, during service on the Sabbath, leaped through the window of the chapel, and died in about thirty-six hours from the injuries occasioned by the fall.

The popular notions in regard to insanity are exceedingly crude and erroneous; and, unfortunately, the same remark is but too extensively applicable to the members of both the medical and the legal profession. The laws, too, relative to cases of mental ~~alienation~~, are everywhere so imperfect as to involve the administrators of justice in a labyrinth of difficulties, and lead to the most singularly inconsistent results in this species of medico-judicial trials. It is unnecessary to search the annals of foreign jurisprudence for incontestable proofs of the following propositions.

1. Persons have been executed for homicidal acts committed under the influence of maniacal delusions and impulses, which should absolve those persons from moral responsibility.

2. Individuals are now suffering imprisonment for the expiation of offences committed at times when those individuals were, by reason of insanity, not amenable to the laws.

3. On the plea of insanity, prisoners indicted for homicide have been acquitted, when, from the evidence given upon trial, no facts were elicited satisfactorily demonstrating that the prisoners, either prior or subsequent to the commission of the felonious acts, were labouring under a degree of mental disorder sufficient to exculpate them from the punishment legally adjudged to his offence.

4. In civil tribunals, in cases *de lunatico inquirendo*, where the person, in the opinion of those who had thoroughly investigated his condition, was evidently insane, either the jury have been unable to agree, or the suit has been withdrawn by the counsel, under the impression that the jury would return a verdict of sanity.

It may truly and most emphatically be asserted that "these things ought not so to be." They indicate an imperfect code of laws; they are expressive of ignorance both popular and professional.

We hail the book before us as one of the correctives which should be productive of a better state of things amongst us. It should be attentively read by every physician, by every lawyer, and by every juror who may be called to sit in judgment upon a prisoner indicted for felony, and in defence of whom is raised the plea of insanity. P. E.

ART. XVII.—*Miscellaneous Contributions to Pathology and Therapeutics; being a Series of Original and Practical Papers on Rickets, Hydrocephalus, Impotence and Sterility, Pulmonary Apoplexy and Hæmoptysis,* &c., &c. By JAMES RICHARD SMYTH, M. D. Homines ad Deos nulla in reproprius accedunt, quam salutem hominibus dando.—CICERO. 8vo. pp. 341. London, 1844.

THE title of the present work sets forth, with tolerable fulness, its contents. The only subjects embraced in it, which are not enumerated upon the title page, being Rheumatic pericarditis and pleuritis, and False aneurism.

In respect to each of these affections, the views, whether pathological or therapeutical, advanced by the author, although some of them are by no means novel, and others will require a more extended series of observations to establish their truth, are all of a highly interesting character.

The whole volume will be read by the practitioner with the deepest attention, and although he may not be able to adopt all the views of the author in relation to the character and etiology of the diseases treated of, or to admit as accurate all the directions given for their treatment, he will find far more, we are persuaded, to approve of than to condemn. No one can, indeed, fail to rise from its attentive perusal, without having acquired many hints that will be useful to him at the bedside of the sick.

Rickets, which is the first disease treated of by Dr. Smyth, he considers, in common with a large number of modern pathologists, to be identical with scrofula in its nature and causes, and demanding for its cure a similar plan of treatment.

Its origin and phenomena he attributes chiefly to infantile indigestion—and supposes, that enlargement, in a greater or less degree of the liver, is a prominent feature of its pathology.

Dr. Smyth commences his consideration of this disease with a series of well delineated cases.

Scrofula, of which he considers Rickets to be one of the forms, he refers to a lesion or perversion of assimilation and nutrition in the vascular, muscular or osseous system, dependent upon a defective hæmatosis, in consequence of which the blood is rendered deficient in fibrine and red globules.

Its principal predisposing causes are a hereditary taint and organization.

"When, as sometimes is the case, the disease becomes developed in the system of the child, not the offspring of strumous or otherwise debilitated parents, it is difficult, and, indeed, unnecessary to draw any distinction between the predisposing and exciting causes, as these are, in fact, the same morbific agents, which would appear to differ only as to the times and greater or less intensity of their mischievous actions. When a congenital strumous and rickety diathesis exists, a shorter and less rigorous operation on the infantile system of those causes which ordinarily act as the excitants of the disease, are sufficient to quicken the malady into life and form; and, on the contrary, where such diathesis or physical predisposition does not exist, but when the affection is altogether the offspring of contingent and external circumstances, a longer and more severe operation of these morbific agents is, generally speaking, requisite for the production of the disease."

Dr. Smyth does not consider it necessary that, in order to give birth to offspring predisposed to scrofulous affections, the parents should themselves be of a strumous habit—on the contrary, the predisposition will be found to exist in the children of parents whose constitutions have become debilitated or broken down from any cause. Thus, he remarks—"repeated attacks of gonorrhœa, and long-continued gleets have certainly the effect, in not a few instances, particularly in the male, of greatly depressing the spirits, and of relaxing and softening the solids, and of weakening, in no inconsiderable degree, temporarily or permanently, the entire system and constitution. The offspring of an individual labouring under such debility of the system is very likely, no doubt, to be weak, and disposed to disease, and most of all to the distemper of scrofula in some one of its forms."

The exciting causes of rickets, are, according to our author, referable chiefly or altogether, to the condition and circumstances of the child as regards aliment, air, and exercise, habitation and clothing, and exposure to wet, damp, or cold. "In every case of rickets which has come under my observation," he remarks, "the system of the individual certainly had been, or was being, subjected to the unsalutary agency of insufficient and unwholesome nutriment in the form of breast-milk, or food artificially prepared; its habitation was generally damp, cold, and confined, and excluded, in a greater or less degree, from the due influence of the sun; the nursing and physical education of the child was negligent and bad, it being seldom in the free insolated air, and sometimes but scantily clothed."

All the foregoing remarks are unquestionably correct—they will be borne out, we believe, by the best-established facts in relation to the persons in whom the several forms of scrofula, including rickets, generally occur, and the circumstances under which they are almost invariably developed—but, we can perceive nothing in them particularly novel—our impression is that they are admitted by most modern pathologists, who, however much they may differ as to the exact nature of the morbid condition of the tissues constituting the scrofulous diathesis, are tolerably well agreed as to its predisposing and exciting causes.

As we have already remarked, Dr. Smyth attributes the origin and phenomena of rickets to infantile indigestion connected with enlargement, to a greater or less degree, of the liver. The evidence in support of this view of the pathology of the disease is based chiefly upon the symptoms and progress of four cases, the histories of which are minutely detailed. We should have been pleased had the author entered into a more extended examination of his particular views in this respect—which, to a certain extent, correspond with our own.

"My experience," the author remarks, "I acknowledge, does not enable me to say to what extent enlargement of the liver, and more or less prolonged defect or vitiation of the biliary secretion in children, deranging and impairing the processes of infantile digestion and hæmatosis, may be connected with the proximate cause, and early phenomena of rickets; but I could not avoid observing, during the treatment of the two first cases, in which great enlargement of the liver was present, that the return to a more healthy size of that viscus, and improvement of the general condition of each individual, and marked amendment of the rickety symptoms, were perfectly simultaneous. The great Boerhaave, it is true, has made the proximate cause of rickets to consist in 'a sluggish, cold, and vapid cacochymy, together with a loose structure of the solid parts,' which obviously gives to the affection a humoral origin, and places its *ens primum* in the blood; and in this respect Boerhaave is, no doubt, in a great measure correct. But the blood, it should be borne in mind, is dependent for its existence, and its continuous healthy condition, upon the combined and harmonious operation of a number of organs, the second in office and importance of which is the liver."

"Is it unreasonable to suppose, then, that if this latter organ should become diseased or defective in function, and continue so for any lengthened time during infancy, the period of most tender growth and conformation of the individual, it must affect in some very obvious manner the processes of assimilation and healthy organic formation throughout the entire system?"—"at all events I am firmly of opinion, that the practitioner who will view the infantile affection now under consideration as one simply of hepatic disease, with more or less aggravated derangement of all the digestive functions, and so apply his remedies judiciously in accordance, will be he who is most likely to benefit, and in all respects improve the condition of his patient."

In the following remarks there is much truth, though very loosely and awkwardly expressed.

"From some little attention I have occasionally paid, as opportunity offered, to the indispositions and disorders of children, I will take upon me to observe, that there is a pretty comprehensive class of chronic digestive affections, which these tender young creatures too frequently suffer from, more particularly amongst the poor, the pathology of which is still a subject but imperfectly understood, and the treatment, as a matter of course, uncertain and unsatisfactory. In this class I place the different lesions and perversions of assimilation and nutrition, as exhibited in the respective manifestations of scrofula of the vascular, muscular, and osseous structures. I coincide in opinion, it is necessary to observe, with some authors of creditable authority, who consider the malady of rickets, as regards the softness of the muscles and bones, as nothing else than a scrofulous affection of these parts. I also attribute to a taint of the same distemper the dropsical diseases of hydrocephalus and spina bifida, as I am fully convinced these morbid conditions always originate in this peculiar diathesis of debility."

The author's description of rickets—from its invasion until its termination—is particularly accurate and graphic.

The following is his summary of the pathological anatomy of rickets:

"When the disease proves fatal, the emaciation is general and extreme. The subcutaneous cellular tissue has completely disappeared; the muscles are wasted, flabby, and decolorized; the deformed bones soft, and more cellular than natural, and deficient in their solidifying constituent of phosphate of lime. The deficiency in this distinctive osseous element has been found to amount to one-half the quantity which usually goes to the composition of healthy formed bone. The medullary matter in the cavities of the bones is sanguineous and jelly-like; and the entire substance of the bone is spongy and more vascular than ordinary. The bones of the cranium, besides being softer, are generally larger than natural, and separated at their sutures; and the brain is frequently distended with dropsical effusion. The cerebral mass appears large and inclined to be pulpy. The abdomen is always increased in size, and its parietes wasted and thin. The increase in the bulk of the abdomen is owing chiefly, according to the testimony of Glisson, Hoffman, and others, to greater or less enlargement of the liver.

"The spleen is occasionally found enlarged. The mesenteric glands are sometimes quite sound, and at other times they are observed to be increased in size. The pancreas and kidneys are pretty healthy, and so also are the stomach and intestines, except that these latter are frequently observed to be more distended than natural. The thymus gland is sometimes greatly enlarged. I have seen it, in a boy between eight and ten years of age, the subject of scrofula and rickets, projecting fully three inches above the sternum, and pressing so upon the trachea as to cause severe dyspnœa. The heart and lungs are sometimes found diseased; the former enlarged or hypertrophied, the latter the nidus of tubercular deposit: but such conditions of these viscera are more adventitious and accidental than properly included in the morbid appearances of rickets. The blood is in a dissolved, watery condition, and deficient in all its higher constituents."

The directions for the treatment of rickets given by Dr. Smyth are in the highest degree judicious—we do not perceive in them, however, any thing that would not suggest itself to the well-informed and judicious practitioner. The doctor, it is true, urges attention, in the early stage of the disease, to the morbid condition of the liver, and insists upon a course of treatment directed "to render active the biliary secretion and emulge the liver." But at the period and under the circumstances the treatment referred to is directed—no well-instructed physician would neglect it.

We have entered into a more extended notice of this portion of the volume before us than we might otherwise have been induced to do—in consequence of attention to the views he has advanced on the etiology and pathology of rickets,—being particularly requested by the author in his preface. These unquestionably are sufficiently important and interesting to receive a candid examination, but they certainly can lay but little claim to novelty or originality—and are communicated in a somewhat rambling and awkward style—the ideas and illustrations of the author being thrown together rather than arranged with much attention to clearness and precision.

Of the very interesting essay, or rather series of Essays on Chronic Hydrocephalus, we have only room to notice the remarks of the author on cerebral auscultation as a means of diagnosis, and on the operation of tapping the brain, the period for its employment, and its results.

In his history of the first of the nine cases of chronic hydrocephalus, of which a detail is given in the volume before us, Dr. Smyth remarks:

"The sutures of the upper part of the cranium are all ununited, and the pulsatory movements of the brain can be both seen and felt in the anterior and posterior fontanels, and along the course of the sagittal suture. On applying the ear to any of these situations, and also over the parietal bones, a brief, rather soft, and rushing sound, synchronous with the pulse, is distinctly audible. Over the anterior fontanel and parietal bones it is heard the loudest, and it gradually becomes fainter as the examination recedes over the sagittal suture, posterior fontanel, and occipital bone.

"To be somewhat more particular in the earliest description of this new auscultic phenomenon—it is *an abrupt, brief, rushing, arrested sound, in tone something between a* bruit de soufflet *and a* bruit de rape; *not soft enough for the former, nor hard enough for the latter. In its character of intensity, it varies, of course, with the energy of the action of the heart and pulse. When the circulation is excited and vigorous, and the heart, unembarrassed by palpitation, beats steadily and strongly, the sound is most clear and audible.*"

When the case, from which the above extract is made, was first published—July, 1837,—Dr. Smyth states that he was unaware of the fact that our collaborator, Dr. Fisher, of Boston, had preceded him in the observation of the cerebral phenomenon referred to.

The author relates several cases, in all of which it was present, and readily detected, and one case, having many pathological points similar to those, and perhaps only one point dissimilar, or, it may be, additional, in which the phenomenon *was absent*. This latter was a case of chronic hydrocephalus, in which the operation of tapping the brain had been performed nine times.

In regard to this case Dr. Smyth remarks, that, "on a cursory consideration of the physical symptoms present, which were in fact the symptoms of the last stage of the disease, in connection with the appearances found in the head on dissection, and on comparing these observations with others made at an earlier period of the malady, he confidently expects that further investigation will enable us, by the aid of auscultory signs, to mark the progress of the effusion into the ventricles of the brain, and the concomitant changes in the structure of the organ, in chronic hydrocephalus, with the same degree of accuracy as daily obtains in certain diseases of the chest."

"I allude," he adds, "more particularly to the diseases of hydrothorax and empyema. That, in fact, as in these affections, the respiratory murmur is observed to become feeble, faint, and ultimately extinct, as the serous or purulent effusion continues to increase, and the lung becomes more and more compressed,—so, in like manner, in chronic hydrocephalus, will the cerebral murmur be found to undergo changes indicative of the increase, or the contrary, of the water in the ventricles of the brain, and the consequent compression and absorption of the cerebral substance."

Dr. Smyth notices at some length the contributions of Dr. J. D. Fisher of

Boston, and Dr. S. S. Whitney of Newton, Massachusetts, on cerebral auscultation, published in this Journal. With the general conclusions of the latter gentleman, especially, our author entirely agrees.

Dr. S. has furnished cases of simple congestion, and acute inflammation of the brain, with and without effusion, in addition to those of chronic hydrocephalus already noticed, which present striking examples of the presence, in these affections, of the auscultic phenomenon under consideration.

"In one of these cases, it is worthy of note, that on the establishment of the child's health the sound entirely ceased, thus showing that it is not a physiological phenomenon, but strictly a pathological one; a phenomenon connected with, and resulting from a definite lesion of the brain.

"In cases," he remarks, "of chlorotic cachexia and severe general and cerebral anæmia, the cerebral murmurs or bellows sound is observed to become modified in its character, and to acquire some tones similar to those that are blended with the respiratory murmurs in the inflammatory disease of bronchitis. It acquires musical, cooing, click-like tones. In aneurism of a cerebral artery it puts on a thrilling, purring character."

In illustration of this latter fact, a long extract is given from the paper of Dr. Whitney.

"It is only," observes Dr. Smyth, "according to our present knowledge, in disordered and diseased states of the cerebral vessels and circulation, that a sound becomes developed in the head. Unlike those of the heart and lungs, the functions of a healthy brain are performed in silence, or without the emission of any sound that the ear can catch. On auscultating the head, however, of a healthy child or other more adult individual, four sounds, more or less audible, may be heard, which have originated at other parts of the system. These the brain and cranium have only, of course, conducted to the ear. The sounds are these:—1st. That of the heart. 2d. That of respiration. 3d. That of deglutition, and 4th. That of the voice. These sounds are all easily recognized, and so distinct and obvious as to preclude the necessity for description. They have been denominated—the cephalic sound of the heart—the cephalic sound of respiration—the cephalic sound of deglutition—the cephalic sound of the voice. This last sound, in certain cases of cerebral inflammation, and effusion between the membranes, and on the surface of the brain, has been observed to undergo a change of character similar to that which the voice undergoes in its passage through the lung and wall of the chest in some cases of pleuritis and pleuritic effusion. It acquires an ægophonic tone, which, according to the experience of the American writers, already mentioned, may be considered as a certain diagnostic sign of effusion between the membranes of the brain. Thus, it would appear, that we have a cephalic ægophony expressive of a particular condition of disease of the brain, as we have a thoracic ægophony expressive of a particular condition of disease of the chest."

In regard to the operation of tapping the head in cases of chronic hydrocephalus, we shall give, at some length, the remarks of our author, as it is a question upon which there exists among medical authorities, much discrepancy of opinion, and in relation to which very discordant results have been given as the direct deductions from numerous cases in which the operation is said to have been cautiously and repeatedly performed.

"I am fully aware," Dr. Smyth observes, "of the difference of opinion which generally prevails regarding the results, whether beneficial or otherwise, of tapping the head in these affections; and several of the facts that have been urged on both sides of the question I had an opportunity of witnessing, during the progress of the present case, (the one to which these observations are appended,) to a few of which, with some other points in its pathology, I mean now briefly to advert.

"It is scarcely necessary to state that I am an advocate of the operation, and, on this account, naturally feel the more disposed to draw attention chiefly to those circumstances in the treatment of the case, which must evidently be considered commendatory of the measure. Look at the condition of the child when it first came under my care, and during the early medicinal treatment, and compare this with that which it presented from the third until after the sixth operation. What a happy alteration in all respects did not the state of the little patient exhibit during this latter period! and to what was it attributable? Solely and simply, I think, to the relief afforded to the brain by the removal of the incumbent fluid. Observe the great amendment which had taken place, not only in the cerebral functions, but also throughout the entire extent of the animal and organic systems. The attacks of convulsions had ceased, the stupor and drowsiness had disappeared,—sensibility and voluntary motility had returned,—the senses were resuming their functions,—the development of the mental faculties had actively commenced. The sense of hearing, from having been almost extinct, had become remarkably acute. Vision, also, to some extent had returned, and the expression of the eyes, and the countenance altogether, was considerably improved and more intelligent. The circulation, too, had become more diffused and equable, and the functions of assimilation and of nutrition were more healthily performed. These latter amendments, vital and important as will be granted, were very manifest, in the much less anæmic appearance of the cutaneous circulation in general, and that of the scalp in particular, and by the plumpness and firmness which the body and limbs had acquired, and also by the progressing ossification of the cranial bones."

After the seventh tapping the child was ordered into the country—the water, during its absence from the city, reaccumulated in the head to such an extent as to bring on a return of the convulsions, which, on the removal of the fluid, again subsided, and did not return until a short time previous to the death of the patient.

"I have said," remarks our author, "that I am an advocate of this operation. I shall state my reasons. They are these. I advocate it—first, from the number of cures which it is reported to have produced, and I am satisfied it has done, in the hands of other and more experienced operators. Drs. Conquest, in this country, and Graefe, on the continent, have published some cases in which they seem to have been singularly successful. Secondly, from the very manifest benefit which I observed to result from it in the aggravated, and as was considered, hopeless case, above referred to; and thirdly, from the obvious rationality of the measure, as it would appear to me, when had recourse to at the proper time, and under the combination of lesions which ought, indeed, I conceive, *per se*, to indicate its application."

The circumstances which indicate the proper period for the operation are thus described:

"When the head has become so enlarged that its appearance altogether might bear some resemblance to that of a small balloon, and the coronal and sagittal sutures are from one to two or three inches asunder, and when over these parts the scalp has become so distended and tense, that it has acquired a smooth and shining surface; and further, when the touch here can discover no cerebral movement, but can easily detect the subjacent fluid, and if, as no doubt generally is the case, with this set of physical signs, coma, insensibility, and perhaps, convulsions, be joined, no reliance on general expedients should, in my humble opinion, delay for a moment the employment of the trochar."

"The principal ill consequences, which have been placed to the discredit of the operation, are inflammation of the substance of the brain or its membranes, and cerebral collapse. Of the former, mechanical injury by the trochar has been considered the cause, but the experience derived from the case under consideration would lead me to doubt the entire correctness of this opinion; for, on reference to the dissection, it will be found that the vicinity of the punctures was exempt from all inflammatory results, but that these were located at a different part of the brain, namely, at its base. These facts have induced me to think that, perhaps, in this case, it was not so much the puncturing of the brain as the consequent collapse of the organ which gave rise to its several attacks of inflammation,—and this opinion, it may be allowed, receives more than a little corroboration by my having observed, during the treatment, that the symptoms of cerebral inflammation, and the state of cerebral collapse were always concomitant, that after each operation, although the brain necessarily became more or less collapsed, if that state continued longer than twenty-four hours, it was afterwards accompanied by general febrile excitement and symptoms of cerebral inflammation, and that, on the disappearance of these, the dropsical effusion was again quickly repeated, and the brain rendered distended and tense. Such phenomena I observed not only once, but three or four times; and the mode in which it would occur to me to explain them would be, that under the condition of collapse, the mass and weight of the brain, instead of being supported and pressing, as in the healthy state of the organ is the case, on the sides as well as on the floor of the cavity of the cranium, pressed wholly on this latter part, thereby producing more or less obstruction of the circulation, with some degree of irritation of the interposed membranes, on which the inflammatory attacks supervened; that, during the existence of these attacks, and more especially of the sympathetic febrile excitement owing to, and concomitant with, the *general* arrest of secretion and exhalation which accompany and characterize such a state of the system, the *local* effusion in the present instance was suspended, and the brain, in consequence, remained collapsed. But, as has already been remarked, as these inflammatory and febrile states disappeared, and the processes of exhalation and secretion generally, resumed activity, the dropsical effusion was speedily repeated, and the brain rendered distended and tense. If this explanation be correct, what is the instruction, and what are the practical indications which it contains? Does it not point to the propriety, in performing the operation, of using every precaution to avoid the occurrence of collapse? and that, it appears to me, can only be done by extracting the water slowly and in small quantities. From four to six ounces is the most, I think, that should be drawn off at a time."

The Essays on Impotence and Sterility contain a number of very judicious and sensible observations on the nature, causes, and treatment of these lesions of functions in the genital organs; which we can only briefly notice.

The subject is introduced by some general observations on the neglect of these maladies by pathologists and therapeutists generally. Their connection with nervousness, insanity, and our social instincts and affections, is briefly noticed, and a few cases introduced to illustrate this connection. The relation between the generative organs and the voice is next considered—and then follows the author's examination into the causes and symptoms of Impotence and Sterility.

The mental causes enumerated by Dr. Smyth are mental impulses or emotions—any feeling or passion sufficiently intense to absorb the attention of the mind to the exclusion of the sexual emotion, which accompanies and immediately precedes the act of propagation, will interrupt for a longer or shorter period the functions of the genital organs, and therefore operate as a cause of impotence. This species of impotence is usually of short continuance. When, however, the affection of the mind is of a permanent character, the impotence is liable to be also permanent.

The constant association of sexual disorder, and more or less of generative incapacity, with mental derangement, whether as cause or effect, is pointed out by the author, who believes that every insane individual, whether male or female, is, at the same time, also the subject of some sort of procreative disability, defect or disorder, either impotence or sterility, or both; and the removal of the one affection—most frequently, he apprehends, the mental—would often seem to prove immediately curative of the other. This circumstance is, we believe, not noticed by any leading pathologist, and will not, we believe, be borne out by the observations of those who have more closely studied the condition of the several functions in the insane.

"Fear of incapacity, timidity, excessive modesty, disgust, disappointment, hatred, jealousy, surprise, terror, anxiety, belief in the power of sorcery and witchcraft, will, occasionally, operate so intensely on the feelings and the imagination, as to be the cause of impotence of longer or shorter duration."

In regard to the constitutional causes to which he considers that nine out of ten cases of impotence and sterility are to be referred—admitting, at the same time, that instances do occasionally occur of innate and hereditary generative incapacity in both sexes—Dr. Smyth enumerates, as the most usual, premature, intemperate, and unnatural venereal excitement; disease of various organs of the body, particularly of the cerebellum, liver, stomach, and other digestive organs, and of the circulation generally. The author has seen complete impotence of three months duration, accompanied by general emaciation and impairment of health, excessive irritability of both mind and body, and considerable shrinking of the penis and testicles, occur in a young man of twenty-five from injury of the back part of the head. He also relates a case of sexual incapacity in a male, the result of indigestion and severe chylopoietic derangement, which was effectually cured by the persevering adherence to a plan of treatment adapted to restore the tone and functions of the digestive organs.

The author directs attention to the immediate connection that would appear to exist between the thin and imperfectly formed condition of the seminal fluid, and the excessive irritability of the vesiculæ seminalis and ejaculatory muscles of the urethra and perineum, giving rise to irregular and premature emissions, while the erectile function of the penis is imperfect—generative lesions dependent in many cases upon great constitutional derangement and debility.

He notices, also, the disposition to suicide exhibited by individuals labouring under premature and long-continued sexual incapacity.

The treatment recommended by the author, both hygienic and medicinal, is in general extremely judicious. It is illustrated by a number of cases minutely described—in its leading details it is such as would at once suggest itself to every experienced and well-informed physician.

"The first thing," the doctor remarks, "which reason and experience would dictate to the practitioner to do, is to arrest as soon as possible the seminal emissions. All the other morbid phenomena, both general and local—the debility of the constitution, of the circulation and nervous system, and the absence or imperfection of the generative orgasm, are chiefly the effect of the unhealthy elimination of the seminal secretion from the system."

"Except where there is organic disease of the testicles or of their appendages, such as enlargement of them and of the scrotum from chronic inflammation, sarcocele or hydrocele, causing increased weight and pain, a suspensory bandage should never, according to the author, be had recourse to. Its effect, on healthy testicles, by elevating them from the hanging, swinging position in which nature has, with care and design placed them, is to impair their circulation and dependent vital functions of nutrition and spermatic secretion."

"To brace them up," he adds, "for any length of time in a suspensory bandage, has the effect, as I have seen in more instances than one, of considerably lessening their size, and consequently of injuring the generative powers."

Dr. Smyth's next Essay contains the history of a case of pulmonary apoplexy and hæmoptysis complicated with pneumonia, pulmonary emphysema, and asthma, with an account of the lesions detected after death; accompanied by some remarks upon the pathology and treatment of the case. The case detailed is by no means an unique one—and although the therapeutical observations of the author, in regard particularly to the action of lead, iron, mercury, and iodine upon the blood and organism generally,—as well as those upon the bad effects of blood-letting, in pneumonia, after expectoration has commenced, deserve some attention; nevertheless the space we have already occupied will oblige us to pass them over without comment.

We copy the following from the close of the present essay:

"The pure physiological respiratory murmur, in any work upon auscultation I have had an opportunity of perusing, has not, according to my observation, received an accurate description, one that accords with nature. The murmur is described as being double—inspiratory and expiratory—and similar to that of small bellows. The difference in the *intensity* of these two sounds has been noticed by all writers,—but what I consider rather singular, the difference of *duration*, though to my ear very perceptible, has not been pointed out. The first or inspiratory sound, like the first or systolic sound of the heart, is in duration fully double that of the expiratory or second sound. This observation can at any time be put to the test, by directing attention to the acts of respiration in one's own person. The rhythm of respiration runs thus:—First, there is the period of inspiration, which, I will say, occupies four-twelfths; second, the period of pause or transition, which occupies one-twelfth; third, the period of expiration, which occupies two-twelfths or one-half that of inspiration; and fourth, the period of repose, when the entire respiratory apparatus rests, which occupies five-twelfths, or a little more than that of inspiration.

"It is interesting, and, in a practical point of view, not unimportant to observe how the relative duration of these actions in paroxysms of asthmatic dyspnœa is altered, and sometimes, as may be seen, completely reversed. Inspiration becomes brief and spasmodic, and expiration becomes so prolonged as frequently to include the usual period of repose. What practitioner has not occasionally witnessed, with painful anxiety, the spasmodic inspiratory gasp, succeeded by the prolonged expiratory moaning effort, when the face becomes congested and purple, and the system throughout is affected by transitory asphyxia? In all these cases, the great difficulty, it would seem, which the patient experiences, is in the expulsion of the air from the chest, not in taking of it in; and all the respiratory powers are pressed into action to accomplish this object. Such instances of peculiar asthmatic dyspnœa only occur, I believe, in cases of excessive emphysema, accompanied by more or less of bronchitis, of which, perhaps, the dilated, weakened condition of the air-cells, together with the mucous obstruction of the bronchial tubes, afford a sufficient explanation."

In the succeeding essay we are presented with the history of a case of rheumatic pericarditis and pleuritis, followed by some remarks on the effects of blood-letting in structural disease of the heart. Dr. Smyth notices the difficulty with which syncope is induced by blood-letting or otherwise, where the heart is structurally diseased, in connection with the fact, that fainting, under such circumstances, is at all times a serious and not unfrequently a fatal occurrence.

Some remarks follow on the remedial employment of mercury in rheumatism and syphilis; on the physiological and therapeutic action of iodine, arsenic, iron and mercury, and on the diagnosis of the phenomenon of "friction of ascent and descent."

The concluding essay relates to the circumstances of a singular case of false aneurism of the aorta, the history and post-mortem appearances of which are given. The case is followed by an examination of the question of the possibility of the occurrence of such a disease.

The following extract, though somewhat long, will not, we trust, be altogether uninteresting.

"It has been stated, by writers, that *false aneurism* of the ascending portion of the arch of the aorta does not, nor can ever occur, for this reason, that the structure of the part—the absence of a cellular coat to this part of the vessel—will not permit such a lesion. Dr. Hope, a good authority on this subject, makes the following statement: 'Almost all the aneurisms of the ascending portion of the arch, are originally of the true species; but the false are sometimes engrafted upon them; the tumour generally springs from the anterior or lateral part of the vessel, while the posterior part is little, if at all implicated. It sometimes attains the magnitude of a mature fœtal head, and generally inclines to the right side of the chest. When it springs from the root of the aorta, and the middle and internal coats happen to burst, there results, not a false aneurism surmounting the true, as in other parts, but a fatal extravasation into the pericardium. The reason of this is, that the part of the aorta referred to is destitute of a cellular tissue, and the pericardium, which supplies its place, not being equally distensible, bursts rather than dilates into a false aneurism.'

"The doctrines contained in the two last sentences of this quotation, can no longer be received as authentic. The case given proves the contrary, namely, that *false aneurism* may form at the root of the aorta, as well as at any other part of the arterial system. * * * The serous membrane of the pericardium forms at the root of the aorta a sort of third coat to the vessel, and, in this instance, with the assistance of the adjoining cellular tissue, served every purpose which the more dilatable tissue does elsewhere in the formation of aneurism. In the present case, indeed, the serous membrane *external* to the fibrous coat of the aorta was scarcely more distended than the internal. Again, Dr. Hope says, 'It has been stated by a recent writer, that a preparation in Mr. Hunter's collection subverts the doctrine that false aneurism does not form at the root of this aorta. The preparation of which he speaks, however, scarcely subverts the doctrine, since it is not one of false aneurism; for the middle coat is perfect, the internal one alone being either diseased or removed (which is doubtful) at the base of the sac.' If this preparation in Mr. Hunter's collection do not subvert the doctrine 'that false aneurism does not form at the root of the aorta,' the preparation now in my possession does, than which a fairer specimen of the disease in question could hardly, I presume, be procured from the collection of any of the museums of this city.

"In the supervention of the false aneurism upon the true, the blood, in this case, as far as observation can now detect, seems to have oozed through the walls of the aorta, by several small openings, forming, at first, a sort of extravasation or ecchymosis between the serous membrane of the pericardium and the fibrous coat of the vessel. The extension of the sac to the size which it presented on examination, must have been a process of unusually slow progression. This we can understand from the nature of the serous membrane. The lateral pressure of the blood following each systole of the heart, was prevented from acting with force on the wall of the sac, by the partial intervention of the wall of the aorta, and this useful support was afforded to the sac by the aorta, until the occurrence of the angular rent. But immediately this took place, a gush of blood, propelled by the increased power of an hypertrophied ventricle, escaped into the sac, and caused the rupture and fatal extravasation. The latter rupture followed the former, then, in close succession, and both took place while the boy was on the ladder, fifty-one hours previous to his dissolution.

"Although it is stated by Laennec, Dr. Hope, and other writers on this subject, that life continues longer after extravasation into the pericardium, than after extravasation into any of the other cavities, (for instance, the pleura, trachea, or œsophagus,) into which the blood from aortic aneurism is more commonly effused, I am not aware that there is on record a case, in which the patient survived the extravasation for so long a period as fifty-one hours. Rupture into the pericardium is, indeed, so extremely rare, that the inventor of the stethoscope never saw an instance of it. Dr. Hope has met with one, but he has not mentioned the length of time which the patient survived the event. In the present case, it is to be regretted, that the patient did not remain quietly in bed, as, by so doing, there is little doubt that he would have survived the rupture even longer than he did." D. F. C.

ART. XVIII.—*A Practical Treatise on the Diseases of the Respiratory Organs; including Diseases of the Larynx, Trachea, Lungs, and Pleura.* By CHARLES J. B. WILLIAMS, M. D., F. R. S., &c., &c., with numerous additions and notes. By MEREDITH CLYMER, M. D., &c., &c., with wood-cut illustrations, 8vo. pp. 508. Lea & Blanchard, Philadelphia, 1845.

THE materials of Dr. Williams' Treatise, have, in various shapes, been, already, some time before the public; with their character, therefore, the reading portion of the medical profession are perfectly familiar:—we are, nevertheless, pleased with the publication of the treatise in its present form. To the subjects of which it treats the author has unquestionably devoted considerable attention, and he has succeeded in presenting an accurate description of the various forms and characteristics of the more prominent of the diseases implicating the respiratory organs. His account of their physical symptoms and pathological character is particularly full and instructive, while his directions for their treatment evince the judgment of an experienced practitioner, and an acquaintance with the recorded experience of the more authoritative members of the profession. As a manual of the diseases of the larynx, trachea, lungs and pleura, it will be found particularly valuable to the student and young practitioner.

The edition before us has, we are assured, "been carefully revised" from the Lectures of Dr. Williams on the diseases of which it treats, that have just been completed in the London "Medical Times;" while Dr. Clymer has added to almost every section much new and valuable matter, and is to be credited with several new chapters, embracing an account of some important affections, the consideration of which was overlooked by the author.

The principal sources from which the editor has derived the materials of those portions of the treatise which he has added, are, independently of his own experience and observations, the works of Louis, Grisolle, Piorry, Rilliet and Barthez, Valleix, &c. Various synoptical tabular statements are also introduced by Dr. Clymer, modified from the admirable manual of Dr. Walshe, on the physical diagnosis of Diseases of the Lungs.

The labours of the American editor have been well and faithfully performed—and add not a little to the completeness and value of the treatise—the present edition of which we can very earnestly and sincerely recommend to the notice of the profession.

D. F. C.

ART. XIX.—1. *Reports of the Trustees, Steward and Treasurer, and Superintendent of the* [*Maine*] *Insane Hospital*, 1844. Augusta, 1845: pp. 60.

2. *Report of the Pennsylvania Hospital for the Insane, for the year* 1844. By THOMAS S. KIRKBRIDE, M. D., Physician to the Institution. Philadelphia, 1845: pp. 44, 8vo.

3. *Annual Report of the Board of Trustees of the Massachusetts General Hospital, for the year* 1844, (*including the Twenty-Seventh Annual Report of the Physician and Superintendent of the McLean Asylum for the Insane.*) Boston, 1845: pp. 26.

4. *Twelfth Annual Report of the Trustees of the State Lunatic Hospital at Worcester, Mass.* December, 1844. Boston, 1844: pp. 112, 8vo.

5. *Annual Report of the Managers of the* [*New York*] *State Lunatic Asylum.* Made to the Legislature, January 31, 1845. Albany, 1845: pp. 53, 8vo.

THE reports of the several institutions for the insane in the United States, continue to give gratifying evidence of a progressive knowledge of mental disease, and of the management of those who are afflicted with it. Voluminous and interesting, however, as they are, they almost necessarily contain much which must be overlooked in a notice of them; not that the matter is neither useful or entertaining, but because the topics therein discussed have been sufficiently illustrated in the notices which we have given during the past few years. Whenever any thing novel, any new fact in regard to mental disease or new principle of government of the Insane, is developed, we shall endeavour faithfully to record it.

1. The first report upon our list is that of Dr. Ray. It is written in the finished and classic style which characterizes all the productions of its author.

	Males.	Females.	Total.
Patients in the Maine Hospital, Nov. 30, 1843,	45	23	68
" admitted during the year,	43	40	83
Whole number during the year,	88	63	151
Discharged and died during the year,	38	37	75
Remaining at the end of the year,	50	26	76
Of the patients discharged, there were cured	16	16	32
" " " " there died	2	1	3

Dr. Ray, as in the two antecedent years, classifies his patients into "curables" and "incurables." Of the 46 "curables" discharged, 32 had recovered and 2 died; and of the 29 "incurables" discharged, 7 were improved and 1 died.

Several pages of the report are occupied by remarks upon the treatment of Insanity, from the tenour of which it is evident that the author is disposed to give those means which directly influence the *morale* of the patient, a pre-eminence which, in this country, they have heretefore been denied. After alluding to the diversity of treatment pursued during the last half century, he proceeds as follows.

"He would be a bold man who should venture to say that Pinel and Esquirol, whose medical treatment was confined chiefly to baths and simple bitter drinks, were less successful in their cure of mental diseases than those numerous practitioners who have exhausted upon them all the resources of the healing art. The general conclusion to which this fact is calculated to lead us is, that strictly medical means have less to do than some others with the restoration of the insane; and such, I apprehend, is the conclusion to which opinions at the present day are gradually but surely tending. But if insanity depends upon disease of the brain, as is now universally admitted, the question may be pertinently asked, why should it not be equally under the control of medicines, and treated upon the same general principles as other bodily diseases? The reasoning implied in this question involves a fallacy which will be readily detected, by those who do not always associate in their minds the treatment of disease with the administering of drugs; who believe that the healing art has other, and in a large proportion of cases, more potent remedies than the shop of the apothecary can afford. In chronic disorders, especially of a nervous character, the means on which the intelligent practitioner relies with most confidence, are not the heroic medicines whose virtues are blazoned on the pages of countless books, but proper diet and exercise, change of air and scene, useful and agreeable occupation of the mind. If these noble remedies are so efficacious in disorders that do not involve the mind, is it chimerical to expect much from their beneficial influence upon that disorder which mainly affects the material organ of the mind itself? In the treatment of insanity, therefore, it is no departure from the ordinary principles of therapeutics, to give to those means which act directly upon the mind, the preference over such as are applied directly to the corporeal system.

"The soundness of these views is strongly confirmed by the results of observation in regard to particular remedies and modes of practice. General bleeding, which was once considered as indispensable in acute mania, was utterly discarded, forty years ago, by Pinel; is practised with increasing caution and distrust by the English, and is now seldom used in any American hospital. Purgation, stimulation, and other practices equally popular in their day, are gradually sharing the same fate."

Yet Dr. R., so far from entirely discarding medical remedies, acknowledges that "much may be done by their judicious application to prepare the system for the action of more efficient means and influences," and proceeds to detail some of his specific principles of treatment. In cases generally chronic, when the organs of digestion are disordered, "indicated by coated tongue, costiveness, flatulence or morbid appetite," he gives the compound colocynth pill, the regimen of the patient being coarse bread. If the biliary system be affected, he gives the blue pill, and, under its use, has "often" witnessed "a marked improvement in the state of the mind."

"In very recent cases, copious evacuations of the bowels have been sometimes followed by immediate convalescence. In several cases of suicidal propensity, a degree of comparative calmness and desire of life has occurred as soon as the bowels came under the influence of gentle laxatives, and been succeeded by extreme restlessness and suicidal desires when the medicines were withheld for a few days." Yet he would not purge further than to keep the bowels in a free state.

In those recent cases where there is unnatural heat of the scalp and flushing of the face, symptoms which are frequently met by local depletion, preference is given to the application of cold water to the head, as it admits of "unlimited repetition, is less repugnant to the patient, and more efficient in its operation" than cupping. When the functions of the skin are disordered, a condition which, according to Dr. R., is more frequent in insanity "than in other diseases, attended with greater derangement of the general health," "frequent warm bathing, with the plentiful use of soap and brisk rubbing," is recommended. If there be much vascular excitement, the cold bath is to be preferred. Of the use of narcotics to subdue excitement, Dr. R. says: "My own experience leads me to believe, that the value of this method of treatment has been greatly overestimated. At any rate, my results have been very different from theirs who regard this treatment almost in the light of a specific in mania, and that, too, in the more quiet and dejected, as well as its more turbulent forms. For the purpose of subduing inordinate excitement, I have occasionally given digitalis, stramonium, conium and hyoscyamus, but never with any success. The friends of this mode of treatment rely chiefly, it is true, on opium in some form or other, and although it has not proved quite so inert as other narcotics, yet its results in my hands have not been such as to recommend it very strongly to my favour. In no single instance have I witnessed *any* benefit from its use in recent, raving mania, with intense excitement." Of narcotics as remedies for watchfulness he says: "I have sometimes, in urgent cases, allowed myself to try them, but almost invariably with the result of increasing rather than remedying the evil." He then proceeds as follows: "When sleeplessness is attended with much vascular excitement and heat of the head and skin, the cold shower-bath often affords temporary relief, the patient going to bed and enjoying sound and refreshing slumber. Taken at bedtime, it was found in several instances, during the hot summer nights, to procure tranquil and uninterrupted rest, in place of noise and mischievous industry. It sometimes happens, however, that great sleeplessness is experienced by patients who are but little excited, and in whom it is connected with no obvious disorder of other functions. Opium is sometimes serviceable here, but oftener increases than diminishes the evil. Lupulin and hyoscyamus, in the form recommended by Dr. Brigham, superintendent of the New York Lunatic Hospital, (tinct. lupulin, tinct. hyoscy. 4 ozs. each; camphor gum, 1 dr.; ol. valerian, 32 m.,) have afforded relief when other things have failed. For promoting sleep and quiet at night, we have found nothing like hard work in the open air, and when we have been able to use these means, we have seldom been obliged to have recourse to medicines."

The following are the closing remarks upon medical treatment: "Medicines given expressly and directly for their supposed efficacy in curing insanity, without reference to other disorders, I have never administered. Never having regarded insanity as a disease of inflammation, I have not been disposed to treat it by depletion; and, seeing no proof of its resulting from debility alone, I have never, for that reason simply, attempted its cure by stimulants and tonics. But considering it an affection of the brain, with the nature of which we are but imperfectly acquainted, I have thought, that in the present state of our knowledge, the physician's duty consisted in remedying those bodily disorders with which it is generally accompanied. But when these disorders are removed; when the digestive organs have resumed their healthy condition; when the pulse becomes natural or nearly so, and no unusual degree of heat or dryness remains in the skin; when the excessive nervous excitement has disappeared, and the patient becomes tolerably calm and self-possessed, while reason is still very far from having resumed her lost dominion, then we are obliged to rely almost solely on *moral means*."

At the present time, when a diversity of sentiment prevails in regard to corporeal restraints, we should hardly feel justified in not giving the two parties a fair hearing. Hence we extract the remarks of Dr. Ray.

"Within a few years the doctrine has come into vogue in England, that *mechanical restraints* are improper,—and, accordingly, they have been entirely banished from some of its institutions. Of course, this is proclaimed to be a remarkable and valuable reform, and all who would not be considered as laggards in the march of improvement, are imperatively called upon to adopt it. * * * "That a hospital for the insane can be conducted without them, nobody doubts. But the real question at issue is, whether the welfare of the patients is more promoted by the judicious use, or the entire disuse of restraints; and this question is far from being settled by the fact that some hospitals are conducted without them.

"Before we can admit that the interests of the insane require the disuse of all restraints, it must be proved, either that they are positively injurious to the patient, or that their intended object can be better obtained in some other way. I am not satisfied that either of these positions has been established, but it may be well to look for a moment at the merits of the question.

"Of course, it is not contended that the insane should be subjected to no restraint whatever, but that it should be exercised by the hand of an attendant instead of any mechanical contrivance. When, therefore, mechanical restraints are entirely disused, the first consideration that presents itself is, that the number of attendants must be much larger than when they are used even in a very limited degree, and thus the expenses of the establishment be swelled to a very onerous amount.

"In many parts of our country, the only alternative is between a cheap establishment and none at all; and certainly, nothing but the clearest and weightiest reasons should be suffered to have the effect of debarring a large number of the insane from receiving the benefit of hospital treatment. But it is not on this ground I would defend the use of mechanical restraints. In most cases where they are now used in American hospitals, I have no hesitation in saying that they are far preferable to the vigilance or force of attendants. The object is gained more surely, more effectually, and with far less annoyance to the patient. A mechanical contrivance performs its office steadily, uniformly and thoroughly, and is submitted to as something inevitable. The will and strength of an attendant are capricious and variable in their operation. The strong effort is occasionally relaxed, and the idea of eluding his vigilance or overpowering his strength is constantly present to the patient's mind. The former is mere inert matter, and excites no feeling; while an attendant, constantly present, watching and restricting every movement, is viewed as the author or abettor of his sufferings; his spirit is chafed and a state of constant irritation is produced. The propriety of these views will be abundantly confirmed by an examination of some of the cases that require restraint. Take a very common case, specimens of which no hospital is without for any length of time. The patient is covered with sores or abrasions, which he is converting into bad ulcers by scratching off the scabs, or lacerating them with his nails; or he is bent on tearing open a wound in his neck, made by an attempt at suicide. If entrusted to an attendant without any mechanical aid, he must encircle the body and arms of the patient with his own arms, or else by keeping near him, watch the slightest motions of his hands and arrest them in season. The former means would be exceedingly irksome to both parties, and perhaps impracticable; and the latter would fail of its object, which would require a degree of vigilance and quickness of motion that no man can be supposed to possess. On the contrary, let the hands be restrained by a simple leathern strap which confines them to the waist, while they still possess considerable freedom of motion, and thus one end is attained, and the patient may be left to the undisturbed enjoyment of all his other motions. Seeing that he cannot meddle with his sores, he abandons his attempts, and his mind is at rest on that point. Again, a patient is highly excited and restless, and strongly suicidal. If, in order to prevent any harm, an attendant is put in his room at night, the hours are likely to be spent, not in sleep or quiet, but in a series of struggles between the attendant and patient, the latter, in the blindness of his excitement, venting his wrath upon the former, and thereby being made worse rather than better. A simple contrivance, like that just mentioned, would answer the purpose, while the patient would be left to himself in comparative quiet. Another, though exhausted by sickness and needing repose, is constantly endeavouring to rise from his bed, while the conversation and movements of an attendant only excite his attention and maintain the morbid activity of the brain. Let such a person be retained upon the bed by means of the *bed-strap*, an admirable invention of Dr. Wyman, the first superintendent of the McLean Asylum, whereby the patient is gently held upon his bed, though able to turn from side to side—and he ceases to struggle, his mind is comparatively calm, and sleep may visit his eyes. It often happens, that in order to prevent a patient from doing some improper thing, two or three attendants would be required, and they could effect their purpose only by using a degree of force that would exhaust and irritate him. With the muff, or mittens, upon his hands, he could be allowed to control his own movements with perfect safety and far less annoyance to himself. It very often happens, that in the case of the same patient and in the same condition, mechanical restraints are substituted for the personal efforts of an attendant, and the superiority of the former abundantly shown by the superior calmness and comfort of the patient while under their application.

"It is objected to mechanical restraints that they leave disagreeable impressions on the mind of the patient, who regards them, even after recovery, as marks of degradation and unkindness. That such feelings may have been observed in patients whose recovery was quite imperfect, and who consequently regarded restraints, as they might a thousand other things, in a very false light, is very probable, but not a single instance of such feeling has come to my knowledge, in patients who had attained healthy views on every other subject. It is also objected to them that they are liable to be abused; and that they are often applied to save trouble, and even to gratify the spite of attendants. If the application of restraints is to be left entirely to the discretion of attendants, then the result implied in the above objection would, no doubt, frequently happen. But in this institution—and I presume it is so in all others in this country—no restraint can be applied except by order of an officer. It is our rule to use no more, and continue it no longer, than is necessary to effect the object in view, and in all cases, it is the comfort of the patient, not the attendant, which is consulted. In well-regulated establishments, the number under restraint is always very small. While writing this there is not a single patient in this institution, with any kind of restraint upon the person; and this is often the case for many days together. Occasionally, the number under restraint may amount to four or five, but probably the number would not average more than two or three. It is also objected to them that they chafe the skin and produce sores. This, no doubt, occasionally happens, but if the restraint is discontinued as soon as it is observed, the evil is not a very serious one.

"Such are the objections that have been made to the use of mechanical restraints. Whether I have disposed of them satisfactorily or not, I have no hesitation in saying that they may be urged with far more propriety against the substitute that is proposed, besides some others peculiar to the latter. An attendant can seldom control the movements of the patient so effectually and gently as a mechanical contrivance. He is very apt, unintentionally, to use more or less force than the occasion requires. The struggles of the patient must be overcome by the superior power of the attendant, and under such circumstances, it is impossible, in the nature of the case, that he should always keep within the proper limits. But the patient makes no allowance on this score. It is sufficient for him that force has been used at all, to believe that he has been hardly dealt with. In his mind force is synonymous with abuse, and it often happens that patients who recover their reason in all other respects, never see this matter in its true light. For this reason alone, were there no other, I should adopt the conclusion, that when the nature of the case requires a continuous restraint, the preference is always to be given to some mechanical contrivance. It must be recollected, too, that the mind of the wretched lunatic who would be likely to need restraint, is filled with all manner of suspicion and distrust. He believes that his path is beset with snares, and that enemies encompass him around. What can be more annoying and irritating to such a person than the constant presence of one or two strangers at his side, watching every look and constantly interfering with his movements? What restorative process can be commenced, while every arrangement made for his safety tends to cherish and confirm the delusions that have taken possession of his mind? In the early stages of the disease, when there is much excitement, nothing so effectually prevents the patient from sleeping, as the presence of an attendant. It often happens that one who has not closed his eyes for many nights and days, is enabled to get refreshing slumbers the first night after he comes into the house, by being left alone in his room, and, if necessary, subjected to some mechanical restraint. Again—they who object to mechanical contrivances, on the ground of their liability to abuse, seem not to be aware that the substitute they offer is open to the same objection. That man must be either singularly ignorant of human nature, or culpably remiss in the discharge of his duties, who, after having had charge of an institution for the insane, can say that no attendant of his ever used a harsh word, or handled a patient less gently than he might. Attendants are but men and women, subject to the common infirmities of human nature, and for whatever patience, kindness, long-suffering they may exhibit, they must necessarily be indebted more to nature than to the chastening and elevating discipline of life. When we consider how arduous and trying is their duty when placed as a restraint upon a patient who is constantly endeavouring to elude their vigilance, to annoy them with abusive language, and render them uncomfortable in every way, is it strange that they should sometimes lose their temper, irritate their charge by returning a harsh answer to his abuse, and even endeavour to subject him by exercising an unwarrantable degree of force? He or she must be happily endowed by nature, or admirably disciplined by education, who could endure such a trial hour after hour, days and weeks together, and never lose their calmness and self control. Without meaning the slightest disparagement to this class of persons generally, and certainly not to those now employed in this institution, whose uniform fidelity to their trust is entitled to my warmest thanks, it is to be feared that the number of such is small."

2. By the report of Dr. Kirkbride—like all his reports, sensible and practical, and therefore interesting—it appears that, at the commencement of the last year, the number of patients at the Pennsylvania Hospital for the Insane was 132

Admitted during the year	153
Whole number	285
Discharged and died	134
Remaining Dec. 31st, 1844	151
Of those discharged, there were cured	75
Died, Males 10, Females 2	12

Causes of Death.—Inflammation from concussion of the brain, 1; chronic meningitis, 3; dysentery, 2; acute gastro-enteritis, 1; latent pneumonia, 1; intestinal hemorrhage, 1; epilepsy, 1; suicide, 1; exhaustion of old age, 1.

	Males.	Females.	Total.
Whole No., of admissions since the opening of the Hospital	346	246	592
" " discharged, cured	141	92	233
" " died	34	16	50
" " single	204	106	310
" " married	120	98	218
" " widowed	22	42	64

The insanity of ten of the patients is attributed to "fright." Of these, "four were distinctly traced to the riots which occurred during the last year in the districts adjoining the city of Philadelphia." Four cases were "unquestionably produced by the delusion of 'Millerism.'"

Of the whole number of patients, 68 first became insane under 20 years of age, 256 between 20 and 30 years, 124 between 30 and 40, 30 between 50 and 60, 7 between 60 and 65, and 2 between 70 and 75 years.

The following remarks, giving a correct view of the subject of manual labour in asylums for the insane, are both judicious and seasonable.

"From all the varieties of labour, already referred to, some small pecuniary advantage undoubtedly results; but this is as nothing in comparison to the beneficial effects produced on the health of the patients. The true profit of labour about an insane hospital,—and it is a profit that cannot be estimated in money,—consists in the tranquillity and repose that are given to irritable and excited minds, the removal of painful thought, the comfort of a quiet evening after a day's toil, the sound and refreshing sleep, the blessings of a good digestion, and all the happy results which follow these advantages."

Among the various means for dispelling the "monotony of hospital life," Dr. K. mentions the following, which, so far as we recollect, are novelties.

"I have been much gratified," says he, "by observing the pleasant change that has been produced, by having the patients of certain wards regularly collected in the parlours, on those evenings not devoted to other objects, and having the supervisors of the respective wings to spend an hour in reading from works likely to interest their auditors. The effect has been to make an hour, that formerly was to many particularly dreary, one of the most pleasant in the whole day. In the lodges, and in other wards, some of the attendants spend considerable time in reading to the patients under their care and the result has been so satisfactory, that its regular performance will probably soon be made a part of the daily duties in certain divisions of the house.

"Throughout the past and present winter, we have frequently used, during the evenings, for the same object, a very fine magic lanthorn. The great variety of subjects which may be presented with a full assortment of well-executed slides, makes it a very satisfactory mode of combining instruction with amusement."

We have for many years been convinced that great utility may be derived from lectures—particularly upon subjects susceptible of visible illustration—before such patients as have the power of self-control; and, accordingly, in the winters of 1840–41 and '41–'42, we delivered courses upon several subjects in Natural Philosophy, at an asylum with which we were at that time connected. They answered the most sanguine expectations. From the extract given below, it appears that Dr. Kirkbride is about to establish a course of instruction by this method.

"I have recently made arrangements for a short series of valuable and interesting lectures by an enthusiastic naturalist, upon subjects partly demonstrative and otherwise likely to engage the attention and excite the interest of our patients. Of the entire success of the experiment hardly a doubt can be entertained; and before another winter, I hope to be enabled to announce that one lecture of the kind, will be delivered each week, during the season."

For the reasons alluded to in the notice of the preceding report, we extract the remarks of Dr. Kirkbride upon mechanical restraints.

"*Restraint.*—The subject of restraint in the treatment of insanity, is really of so much importance, that no apology is required for its frequent or full discussion.

"The gross abuse of restraining apparatus which is now universally acknowledged to have existed in most of the institutions for the insane in Europe, has produced a reaction, which bids fair to place some of the same establishments in the very first rank of those, one of the distinguishing features of which, is the general absence of restraint.

"Although it is well understood, that in the hospitals of the United States, with perhaps a few exceptions, these means have been resorted to, to a much smaller extent, it will scarcely be denied, at this day, that until within a few years, much more was employed than was either proper or justifiable.

"From information collected from nearly all the regularly organized institutions for the insane in this country, I have no doubt but that less real restraint is employed in them, at this time, than in the same number of similar establishments in any part of the world.

"In this country, cruelty, immoderate restraint, and ingenious but barbarous contrivances to control the insane, are rarely, if ever, found in properly organized hospitals. When they do exist, it is in the almshouses, and jails, and in the private dwellings of the inhabitants.

"The disuse of restraint or the non-restraint system, as it has been called, means the disuse of mechanical restraint, for which, of course, other less objectionable forms must be substituted. A properly constructed building, an efficient organization,—a more numerous body of more active and intelligent attendants,—all the means to prevent excitement,—all the power which sympathizing kindness and tact can bring to control it when produced, and temporary seclusion, when other means fail, are only a part of the varied modes by which mechanical means of restraint are rendered unnecessary.

"Few intelligent men, familiar with insanity, could now be found to assert that restraining apparatus was frequently required, or that many patients could be benefited by its use. The question in controversy appears to be, whether its use is ever justifiable under any circumstances, or whether it can ever be employed, without injury to the patient.

"Believing firmly that the improper use of restraining apparatus, combined with long-continued seclusion, has been and ever will be productive of the worst effects, and go far to render intractable, curable cases of disease, I am still of opinion, that a few of the simpler forms of mechanical means may occasionally be employed with advantage to a patient. Judging from my own experience, the per centage in any hospital for whom these means are indicated, is exceedingly small, and for considerable intervals none will be required. The rule should be that no apparatus was in use,—its employment should be the exception,—while at the same time it should be understood, that long periods of seclusion were not to take its place, as the effects of the latter might be still more injurious.

"There is one advantage resulting from the nearly entire disuse of restraining apparatus that should never be overlooked,—it brings into activity a constant supervision,—a genuine watchfulness, develops the capabilities of the attendants,—shows the great power of kindness and firmness, and brings out a species of tact, which would have been dormant had mechanical means and seclusion been resorted to, to overcome violence, remove excitement, or cure bad habits.

"Although it is probable cases do exist, I have never yet seen a patient that required any other form of apparatus than the very valuable and comfortable one referred to in previous reports, for retaining a patient on his bed at night, mittens or wrist-bands, with a belt around the waist, or still simpler substitutes for the mittens.

"After a careful review of the 592 cases, which have been under care since the opening of this hospital, I have no hesitation in saying, that all might have been treated without the use of any mechanical means of restraint, had we started with such a determination, or had I felt any pride in making such a declaration. I feel equally confident, however, that in the few cases in which the mild means already referred to, have been employed, the effect in some has been to prolong if not preserve life,—in others, to diminish serious danger, and to shorten extreme violence, and in scarce a single one, to have been productive of the slightest injury of any kind.

"In this hospital the restraining apparatus is kept in the office of the physician, and, like medicine, is never prescribed, unless there is believed to be a decided indication for its use. It is never applied but by the express direction of the physician, and when applied, never kept on longer than he believes it likely to obviate a great danger, or to promote the comfort and benefit of the patient.

"The practical operation of the views above given, is shown in the following statement. In the year 1844 there have been 285 patients under care, and the average number in the hospital has been 151. These have embraced nearly every variety of insanity, and the usual proportion of violent and otherwise dangerous patients, several of whom were brought to us strongly ironed, and still others had been thought to require similar means of restraint before coming to the institution.

"Of these 285 patients, five males and four females have been retained on their beds at night by means of the apparatus already referred to,—one male and three females have had on the connected sleeves, and one male has had a common buckskin mitten attached to an undercoat sleeve.

"The bed apparatus was never used for more than a few consecutive nights, on any patient, and on some for only a single one. In every instance it was applied to break up the habit of standing during entire nights, and to prevent the exhaustion which a determined refusal to assume a recumbent position seemed likely to induce, and these objects were attained in a great measure in every instance. The connected sleeves are large enough to allow ample motion of the arms on each other, and make no pressure on any part; they were used in one instance to prevent an uncontrollable inclination to rub an abraded surface, and in the other cases, to control peculiarly disagreeable habits. The buckskin mittens can hardly be called restraint; they were sufficient, however, to prevent certain injuries to his dress, to which a patient was very determinedly addicted. In no single case have the means referred to been employed on account of violence or suicidal propensities. Besides these, not a strap or any thing of the kind has been upon the person of a single patient. The amount of seclusion, I may add, has been very small and always of short duration.

"From these observations, it will be observed, that in this institution, the use of even the mildest mechanical means of restraint has been little more than nominal, and that in the past year it has been in our power, without difficulty, to have done all that any 'non-restraining' institution has professed to do; as well as that we have been prevented from making such a report, only by a well-settled conviction that by so doing, we should have failed to render all the service to our patients, which our adopted course enabled us to do."

3. The elaborate and very valuable report by Dr. Bell for the year 1843, from which copious extracts were made in a former number of this journal, seems to have precluded the necessity of a long document of the kind for 1844. None will regret the brevity of the last report more than the professional brethren of its author.

	Males.	Females.	Total.
Patients in the McLean Asylum, Dec. 31st, 1843 -	76	58	134
" admitted during the year - - -	65	93	158
	141	151	292
" discharged and died - - -	66	74	140
" remaining Dec. 31st, 1844 - - -	75	77	152
Of those discharged there were recovered - -			68
Died - - - - - - -			19

Causes of Death.—Old age, 10; paralysis and epilepsy, 1; phthisis pulmonalis, 3; debility or exhaustion, 4; suicide, 1; cerebral disease, 1.

The number of patients in the Asylum has been greater than in any preceding year, and, for the first time during the existence of the institution, applicants for admission have been refused, for the want of room.

In the annals of medicine there is probably no broader contrast to be found than that between the prevalent opinions of the management of the insane some thirty years since, and the sentiments expressed in the subjoined extract —sentiments which will receive the concurrence of all who are now connected with institutions for persons afflicted with mental disorder.

"It is confidently believed, that in an institution fully provided with attendants, there may be afforded to all, except a few highly excited or mischievous inmates, every comfort and every luxury to which they may have been accustomed at home."

These remarks are immediately succeeded by the following:—"It has also been an object constantly kept in view, to reduce the restraints upon the volition and the feelings, as well as the actual personal restraints, to the lowest degree compatible with the patient's welfare. We have, as intimated in former reports, no ultra or exclusive views as to the entire disuse of apparatus to abridge the muscular movements of the highly excited. During the last three-quarters of the year, (a memorandum having been kept enables me to state the fact,) it has been proper to use, on the male side of the house, a single restraining measure, that of the muff to the hands of a patient disposed to destroy his eyes; and some form of restraint, in a few instances, on the other side of the house, for reasons deemed imperative. That 'restraints' in these few cases might have been avoided by the substitution of hands, is probable, but it is difficult to appreciate the advantage of such painful, irritating and less secure substitutes, as an universal rule. No reason is yet seen for cutting an institution off from the proper employment of measures occasionally valuable, by a dogmatic adherence to any ultra or exclusive rules, such as may, in other countries, have become popular, if not expedient, in consequence of an honestly generated popular prejudice against 'restraints.'

"In all cases, except a few of the kind above referred to, the ability of an institution safely to dispense with restraints of all kinds will depend principally upon its means of employing and educating an adequate number of good attendants.

"Our reliance has been mainly upon the aid of as many assistants as could be well employed. Feeling always that we had a *carte blanche* from your board to employ any needed aid of this sort, our intention is, that the substitution of mechanical for human guarding, shall be a rare exception to the general rule."

4. The report of Dr. Woodward contains, as usual, a large amount of valuable matter.

	Men.	Women.	Total.
Patients in Mass. State Hospital Dec. 1st, 1843,	135	120	255
" admitted during the year	109	127	236
Whole number during the year	244	247	491
Discharged during the year	117	111	228
Remaining November 30th, 1844	128	135	263
Of those discharged there were cured	56	68	124
" " " died	9	6	15
Whole number of patients admitted in 12 years	1026	987	2013
" " discharged cured	437	479	916
" " died	84	67	151

Single, 1029; married, 789; widowers, 61; widows, 134.

Causes of Death.—Marasmus, 34; epilepsy, 15; apoplexy and palsy, 15; consumption, 14; suicide, 10; disease of the heart, 10; inflammation of the brain, 6; hemorrhage, 5; cholera morbus, 4; inflammation of the bowels, 4; lung fever, 4; mortification of the limbs, 3; dropsy, 3; diarrhœa, 3; disease of brain from intemperance, 2; dysenteric fever, 2; bronchitis, 2; typhus fever, 3; chronic dysentery, 3; erysipelas, 3; old age, 1; gastric fever, 1; land scurvy, 1; congestive fever, 1; concussion of the brain, 1; disease of the bladder, 1. Total, 151.

Dr. W. has observed 789 paroxysms in periodical cases, in relation to the phases of the moon at the time when they commenced. Of these, 372 occurred at the new and the full moon, and 417 at the quadratures. Of the 151 deaths which have taken place at the hospital, 74 were at the time of the new and the full moon, and 77 at the quadratures. Dr. W. says he has never adopted any theory in regard to lunar influence upon insanity.

We extract from the report most of the remarks upon insane children, because the subject is one which has hitherto attracted but little attention. During the last six months we have had under treatment a boy six and a half years old, to whom the description in the first part of the quotation is very applicable. He is improving, and his speech gradually returning.

"There is another class of unfortunate individuals, far more numerous than I had formerly supposed, and much more interesting than idiots,—I refer to INSANE CHILDREN.

"Since I have been connected with this hospital, I have been consulted in a number of cases of this description. These little patients have intelligent faces, well-formed bodies, good developments of the head, and active minds. Their movements are free, easy and graceful; many of them are sprightly, even handsome; they are generally restless, irritable and extremely mischievous, and are rarely able to speak. In some cases, as soon as there is any mental development, the peculiar characteristics begin to appear, without any known cause. In other cases, epileptic fits have preceded these peculiarities. In one case the use of instruments in labour was supposed to be the cause; epileptic convulsions probably sometimes arise from difficult parturition.

"No person familiar with these cases would be likely to mistake them for idiots; they look differently, walk differently, and have different developments of body and mind. Some of these children have been benefited by medical treatment. One, at the present time under my care for epilepsy, seems to be improving favourably. My attention has recently been particularly directed to this subject, as I have been, within a few days, consulted in three different cases, of which the epileptic child, above named, was one. I have strong hope that some of them may be cured, and then instructed. Like other insane persons, there is difficulty in fixing their attention; they move with great rapidity from one thing to another, and are impatient of restraint.

"In some such persons particular faculties seem much more active than others. One lad, in whose case I was consulted, was not able to articulate, and, of course, had never learned to read, but was observing of many things, particularly of mechanical operations, drawings, &c. He has left many traces of his skill on the buildings and fences of his former residence, which are yet to be seen. He has now arrived at manhood, but I have no knowledge of his present condition, or of his progress in improvement for the last few years. When a lad, he was extremely mischievous, but sprightly and interesting.

"Within a few days I have seen a very interesting case of this description: a girl, twelve years old, who has a well-formed head, an intelligent and handsome face, a bright black eye, and easy and graceful manners. She is respectful and obdient in her conduct, gentle and affectionate in her temper and disposition, and usually quiet and unobtrusive, but is easily excited, impatient when urged to do any thing disagreeable to her, and if opposed utters a scream, but cannot articulate. She constantly hurries from one thing to another, and, like the insane, wants a safety-valve to let off her excitement. She is excessively fond of music, would listen with apparent delight to the tones of a piano, seemed to have an irresistible desire to perform herself, and would strike the keys with eagerness and great satisfaction. In her visit to me she would seize the bellows which hung in the room, and blow them with great effort and apparent delight. She is perpetually active, but is far less mischievous than formerly. She has very little power of attention, and has, as yet, never been taught. I have referred the case to my friend, Dr. Howe, whose great success in a case apparently far more forbidding, is universally known, and I am happy to say he is interested in it, and, I have no doubt, will find his active benevolence excited when he shall see her.

"A child, two years old, was lately brought to me at the request of the family physician, who had consulted me respecting it. It is unable to sit, to use its limbs, or talk; its face is intelligent, by no means idiotic. It has powers of mimicry unequaled by any child of its age I have ever met with. Having understood that it would imitate its father in whatever motions he made, I tried some experiments with it, and was astonished and amused to find it copy my movements so exactly, and that, too, with the most roguish expression conceivable, apparently much delighted.

"I have now the case formerly alluded to under my care for epilepsy, which, for some months, has been severe and of frequent recurrence. This child has an intelligent face, and a good development of the head, except that it is small. Its form is graceful, and its movements easy and natural. Since it commenced the use of remedies, it has been more quiet and tranquil, less mischievous, sleeps better, has fewer fits, and they are less severe. If the epilepsy can be cured in this case, and I think it may be, I shall have great confidence that, under the care of its excellent mother, it may be taught to articulate, and, finally, be educated. Indeed, since I have seen this interesting child, some effort has been made to teach it to talk, and with some little success.

"What has struck me as particularly worthy of remark in all these cases is, that while some of the faculties of the mind are active, and many of them capable of improvement, others are torpid or perverted, bearing, in this particular, much resemblance to certain cases of insanity. I have been consulted, quite recently, in a case of insanity which commenced in infancy, and has continued in some degree to this time, now twenty years. When an infant, this young man had epileptic fits; these did not continue long, and the child was apparently healthy, sprightly and intelligent, till eight years of age or upward, and learnt as well as other children. He then became affected with *false vision*, *saw spiders* and *other vermin* crawling over him and all about him, and particularly in his food, so that it was with difficulty that he could be prevailed on to eat. This delusion continued for some time. At that time, now ten or twelve years, I was consulted in the case, and prescribed some remedies. The delusion left him after a while, and he has since been in most respects better; is able to work, but not to learn much, although his mind seems not to be particularly inactive. He is talkative and inquisitive in an unusual degree, asks childish questions, but is inattentive to the answers, and not profited by the information which he obtains. He is able to read and write some, but has not been able to acquire much knowledge. The present winter he has attempted to acquire some additional learning; commenced going to school, and gave his attention to arithmetic; he made but little progress, and soon began to complain of his head and confusion of thought, finally ceased to speak, because he says he could not speak right. For five or six weeks he has been almost constantly mute, speaking only occasionally. Since that time he has twice run away from his home, and wandered he knew not where, was lost and confused in his mind. When he returned home the first time, he was greatly rejoiced to see his friends, and to get back again. When found the second time, he was brought to me, to be placed under my care: his vision is not now disturbed; he does not talk, because he is not satisfied with what he says, and he is tired of life. A few days since he purchased a pistol, to take his own life, but it was taken from him before he made any attempts. He is a stout, hale, full-grown young man; his head is of good size and well formed, his motions easy and graceful, his speech natural. He eats rather sparingly, is anxious to get well, and willing to adopt any means recommended for his cure."

In this report Dr. W. has entered into the details of his system of medical treatment, thus giving to the members of his profession, *as well as to the public*, the results of his extensive experience. Before proceeding to embody, by extracts and condensation, the most valuable part of this section, we must be permitted to remark, discarding at the same time all desire of dictation, that it is with sincere regret that we are compelled to turn aside from journals purely professional, and seek in reports to legislative assemblies some of the most valuable of our therapeutical knowledge.

Bleeding.—"All agree" that depletion by general bleeding and active catharsis is not favourable in insanity, and is often decidedly injurious. If bleeding procure relief, it is but temporary, and the excitement generally returns with greater violence and under more unfavourable circumstances than before. *The indications for active depletion are the effect and not the cause of excitement.* These remedies reduce the energy of the system and increase the irritability of the nervous system. Free general bleeding is only useful in cases of entonic inflammation, such as pneumonia and phrenitis.

Cupping and leeching.—Local bleeding, though more favourable than general, can rarely be relied on to cure insanity, and is resorted to for temporary advantage, reducing excitement until other remedies can be brought to exert their influence. If there be symptoms of determination to the head, cupping may be resorted to, while other means are used to restore the equilibrium of the circulation. In some cases of maniacal excitement, a state of dementia immediately follows excessive venesection.

"*Cathartics.*—Drastic purging is often even worse than bleeding. The effect of this remedy, as a depletion, is probably less disastrous than blood-letting, but it produces other effects often very injurious. The digestive organs of the insane are peculiarly liable to disturbances. Dyspepsia, vomiting and costiveness or diarrhœa, are often troublesome symptoms with them. Drastic cathartics generally aggravate these symptoms when they exist, and sometimes produce them when they do not. Costiveness is generally easily obviated by mild cathartics; it is far less troublesome than diarrhœa, which is often obstinate, and too frequently a dangerous symptom when attendant on insanity. If the secretions of the liver are unhealthy or deficient, or if other conditions of the digestive organs require a change, the blue pill or small doses of calomel may be indicated. These remedies often produce very favourable impressions, and prepare the system for others which may be needed to remove the symptoms of insanity itself.

"In short, cathartics, as such, rarely do good in cases of insanity, but alterative remedies and laxatives are often necessary, and in many cases cannot be dispensed with. Tincture of rhubarb and senna, with aromatics, aloetics, colocynth, and guaiacum, are valuable remedies of this class.

"I often combine compound extract of colocynth with ens veneris, or martial flowers, in torpid states of the intestinal canal with constipation. My favourite remedy in such cases, is the tincture or powder of guaiacum. No remedy in my hands has a more favourable effect in those cases of melancholy attended by dyspepsia, costiveness and gastric distress after taking food, than the aromatic tincture of guaiacum prescribed so as to insure a laxative effect. It invigorates the stomach, acts favourably upon the bowels, proves diaphoretic, and, when necessary, emmenagogue. It may be prescribed in doses of from one drachm three or four times a day, to half an ounce. Milk and sugar are altogether the best medium in which it can be taken. The powder of guaiacum is the better form of this remedy, if needed as a simple laxative; it rarely nauseates, and is useful in flatulency, giving tone to the whole alimentary canal, and effectively obviating constipation.

"Oil of Croton in combination, given in minute doses, often proves favourable to remove costiveness. It is almost the only active purgative which can be prescribed favourably in small quantities. In combination with tonics, alteratives and narcotics, it can be used without swelling the bulk of the medicine, often in very small doses counteracting the constipating effects of other remedies.

"*Emetics.*—Emetics have never been extensively used in my practice with the insane. Many practitioners think well of their effects, and I have occasionally prescribed them to obviate particular symptoms, but have not seen much good from them to relieve the symptoms of insanity. In certain conditions of the stomach, they are indicated in this, as well as other diseases. Ipecacuanha and sulphate of zinc and copper are generally preferable to antimony. Antimony in small doses, combined with narcotics to determine to the surface and obviate their constipating effects, may be prescribed for a short time in the commencement of the disease, but is not useful when it has progressed for some time, especially when tonics and generous diet become necessary.

"*Narcotics.*—By far the most useful remedies in active mania, after the system is prepared for their use, are narcotics.

"It is generally conceded at the present day, that the condition of the brain in mania, is not inflammation, but rather a high state of irritation, increasing its activity and that of the nervous system generally. The symptoms are sometimes equivocal, and are calculated to mislead; but close observation and the effect of remedies conspire to show that the brain is not in a state of inflammation. For this state of the brain narcotics would seem to be the most natural remedies, and experience shows that such is the fact. In many cases, this state of excitement will, after a time, give place to more healthy and natural actions, and the disease will be cured without the use of remedies; but in a majority of cases the symptoms yield more readily and favourably where narcotics are prescribed.

"*Morphine.*—The remedies of this class most extensively useful, are the sulphate of morphine and other similar preparations. The exact time, circumstances, and cases when these remedies can be applied with the greatest benefit, must depend upon the judgment and experience of the medical adviser. On this, doubtless, depends their greater utility in the hands of some men than of others, though many more cases, suitable for their use, may have fallen under the care of one man than of others who have management of institutions. Other practitioners have generally but a limited experience with them, as insanity, at the present day, is but little treated by medicine, except in the institutions especially devoted to this class of patients.

"The morphine should usually be administered in solution, beginning with greater or less doses, according to the nature of the case and the urgency of the symptoms. Moderate doses should generally be first tried, and they may be cautiously enlarged till the system is under their influence and the excitement is controlled. The effects should be carefully watched, and if any unpleasant or unfavourable symptoms occur, the remedy must be changed, modified or combined, so that these effects may be obviated. In a large majority of the cases no such effects will occur. When its effect is favourable, it exercises a controlling influence over the symptoms, and the patient becomes more quiet, rational and natural in every respect. These effects, once gained, can in most cases be maintained till the recovery is complete. Sometimes symptoms occur which require that the remedy be increased, but more generally it can be cautiously diminished, and after a time be withdrawn, and the system suffer no inconvenience, and the insanity prove to be cured. The time that this remedy should be used varies, in different cases, from a few weeks to many months.

"In the few cases in which it is necessary to administer narcotics, in large doses, to produce the most decided impressions, the tincture of opium is better than the salts, but generally the salts are more safe and agreeable in their effects.

"In some cases, the Dover's powder is the best form in which this remedy can be administered, especially in the early periods of disease, when the skin is inclined to increased temperature and unnatural dryness. For twelve years this remedy has been extensively used in this institution, with the most marked success.

"The manner in which the morphine has been used in this and other hospitals in this country, continuing it till the symptoms have subsided, then omitting and seeing them return, then again and again removed by the renewal of the medicine, affords unequivocal evidence of its power to subdue maniacal excitements, relieve the delusions of the insane, and restore the brain and nervous system to a sound and healthy state."

"It is rare that any benefit arises from single doses of opiates at night, to produce sleep, unless the system is kept under the influence of them the whole time. In the most violent forms of the disease, the doses should be repeated once in four or six hours. The medicine failed to gain any permanent credit while it was only prescribed at night, in large doses for the purpose of procuring sleep.

"It is important to know, in this connection, the symptoms which contra-indicate the use of this class of remedies. When the skin is hot and dry, the tongue covered with a white fur, or dry, smooth and red, the bowels obstinately constipated, the pupil of the eye greatly contracted, and the vessels of the conjunctiva injected with blood, the symptoms must be changed before the morphine can be used with safety or advantage. With the dry, red, smooth tongue, which attends comparatively few cases, the use of opiates is generally unfavourable, but the other symptoms above enumerated, can commonly be removed, or so far obviated, in a few days, as to make them unexceptionable.

"In some forms of melancholy, especially where there is great mental anguish, and strong suicidal propensity, its operation is equally beneficial, often procuring relief in a short time, and carrying the patient along most favourably to health. In this form of disease it is rarely necessary to use the remedy in large doses, but whatever is prescribed should be at regular intervals, from three to six times in the twenty-four hours."

Datura Stramonium.—This acts favourably in some cases, disappoints in others, and sometimes aggravates the symptons. "In my hands," says Dr. W., "in ordinary cases, it has not proved very successful." He then writes: "In cases of insanity connected with epilepsy, and especially in epilepsy disconnected with insanity, I have seen most excellent effects from this remedy. It is rare that a case of insanity complicated with epilepsy entirely recovers, but under the use of stramonium the symptoms of both are often greatly diminished in force and frequency. In many cases in which the paroxysms of epilepsy have recurred frequently, they have, for months, been wholly suspended by the use of the tincture of stramonium. This remedy rarely makes any favourable impression on epilepsy, unless it be used in sufficient doses to dilate the pupils of the eye slightly, and produce some difficulty of vision more or less of the time." The best form is the Tincture, either of the seeds or of the extract.

"*Conium Maculatum.*—The extract of conium, either alone or in combination with mineral tonics, is a valuable remedy, and has proved useful in some forms of insanity. As a means of removing maniacal excitement it is worthy of little confidence. But for some forms of melancholy, and especially chronic disease of the digestive organs, with melancholy or neuralgia, it often proves very useful. *It is a deobstruent narcotic of no inconsiderable power.* In cases of melancholy complicated with disease of the stomach and torpor of the liver, attended by uneasiness, restlessness, watchfulness and nervous pains, it often affords great relief, and is auxiliary in accomplishing a cure. In pure neuralgia, conium combined with iron, quinine, nitrate of silver, or the arsenical solution of Fowler, often proves a very efficient remedy. It may be advantageously used for a long time, in large doses, without danger. It is only in large doses that it is useful in any case, and particularly as a deobstruent. The *minimum* dose is ten grains three times a day, the *maximum* dose, two, three or four drachms, as frequently repeated. I have rarely found any advantage from doses less than fifteen or twenty grains, repeated three or four times a day, but commonly give from thirty to forty grains as frequently repeated.

"With the carbonate, or red oxide of iron, it is more frequently prescribed than in any other way. These two medicines when combined, qualify each other, and the combination seems to increase the efficacy of both. * * * When used in large doses the extract of conium produces temporary vertigo, with a *heavy dull* pain over the eyes and across the forehead. If this effect is never produced by the medicine, the dose is either too small, or the medicine is of a bad quality. * * * Glandular tumours sometimes disappear quite suddenly under the use of this remedy." (An interesting case is here related of the dispersion and cure of a uterine tumour "as large as a quart bowl.")

Camphor is now principally used "in combination with other moderate narcotics," to remove slight nervous irritation and induce sleep. In dysmenorrhœa, connected with insanity, or without it, it is often a useful remedy, in doses of from five to ten grains."

Hyoscyamus "is a useful medicine in some cases of moderate excitement, in disturbances of the nervous system and sleeplessness. In combination with tonics, alteratives, and other narcotics, it is useful to allay irritation and produce a quiet and equable state of the system in many forms of mental disease. In high maniacal excitement, and the extreme suffering of some cases of melancholy, it is only an auxiliary to the more powerful and efficacious remedies that we have before considered. Its virtues have probably been over-rated, but it is worth a trial in many forms of disease that do not require potent remedies. I hardly know of a remedy more likely to induce sleep in simple watchfulness, than a combination of hyoscyamus, camphor and lupuline, in equal proportions, from two to five grains each for a dose, repeated if necessary."

"*Nux Vomica* is useful in palsy, relaxation of the muscular tissues of the stomach, bowels and bladder, as well as in external muscular weakness." Dr. W. uses it in cases of melancholy with flatulence and general muscular relaxation, and combined with nitrate of silver, in affections of the heart, epilepsy, neuralgia and chorea. "It may be used in larger doses than are usually prescribed. The first unpleasant symptom arising from its use, is a sense of constriction of the stomach, which is specific, and shows that the medicine is producing some effect."

Belladonna has been but little used by Dr. W. *Veratrine*, externally applied, "relieves neuralgic pains in a surprising manner, usually producing a prickling sensation of the part to which it is applied. When used internally, it has, in some cases, produced strangury."

"*Ammonia, ether, lytta, aromatics*, &c. In some low cases of melancholy, and indeed, in some cases of high excitement, there are coldness of the surface and extremities, a moist skin, paleness or lividity of the skin, particularly of the hands and feet, a weak pulse and other indications of a languid circulation; in such cases, diffusible stimulants are often indicated. In some cases of recent dementia, in which the patient will stand like a statue, with the face fixed to the floor, moving neither hands, feet nor head, nor taking food, nor attending to the calls of nature, without being moved by another; strong stimulants, aromatics, wine and other cordials are indicated, and often produce decidedly good effects. The warm bath, frictions, mustard foot-bath, &c., are good auxiliaries in such cases." In many cases of unequal circulation of the blood, lytta, with other stimulants, is valuable. "Sometimes, even in old cases, it improves the health and gives energy to the mind."

"*Blisters, setons and issues*, produce too much irritation in recent cases; they may be useful in chronic insanity arising from repelled eruptions, or the drying up of old ulcers.

Tonics.—"In acute mania, after the first excitement is over, tonics are often indicated, and not unfrequently may be used with propriety very early in the disease." When the patient is exhausted and feeble, although still excited, "quinine, bark, aromatics, and often wine and other stimulants are beneficial, used at the same time with narcotics. In melancholy, tonics are not only more frequently indicated than in mania, but are often "the principal reliance for a cure. Iron, bark, nitrate of silver, sulphate of zinc, with vegetable bitters and aromatics, are often found useful remedies in this form of insanity. The combination of tonics and narcotics is often successful in melancholy. The extract of conium, with the red oxide of iron and some aromatics, is a useful medicine, as is also the nitrate of silver with nux vomica and extract of hyoscyamus capsicum, &c. Quinine, bark, &c., are more generally indicated in the more acute forms of disease, while iron, silver, zinc and the vegetable bitters do better in the chronic forms."

Baths.—In acute mania, the warm bath, used frequently and the patient kept in it "for some time," is often useful. In melancholy and chronic insanity, when the skin is in an unhealthy condition, it is also beneficial. Cold water to the head and warm foot-baths are important adjuvants in the treatment of insanity. The nitro-muriatic acid bath, the mustard bath and salt-water bath are also commended,—and where baths are objectionable, frequent ablution with warm water or a solution of sal aëratis in water may be substituted.

Castor, valerian, and some other *nervines* have rarely been of use in insanity, in the experience of Dr. W.

5. The report of Dr. Brigham, of the New York State Asylum, is principally occupied, statistics aside, with details of the conditions of admission of patients, and the disciplinary regulations of the establishment. This, though interesting and useful to those who are about to place a friend at the institution, furnishes but little matter for a *medical* notice.

	Males.	Females.	Total.
Patients in the Asylum Dec. 1st, 1843 - -	101	95	196
" admitted during the year - -	132	143	275
Whole number " " - -	233	238	471
Discharged and died - - - -	102	109	211
Remaining, Nov. 30th, 1844 - - -	131	129	260
Of those discharged, there were cured - -	61	71	132
Died - - - - - -	7	9	16

Causes of Death.—Marasmus or general debility, 7; apoplexy and sudden effusion of serum on the brain, 3; consumption, 2; and 1 from each of the following diseases: diarrhœa, chronic gastritis, bronchitis and meningitis. The whole number of patients admitted since the opening of the asylum, (two years,) is 551. Of these, 255 were single, 270 married, 17 widows and 9 widowers. The married are more numerous than the single, an uncommon circumstance in an institution for the insane.

Became insane before 20 years of age, 82; between 20 and 30 years, 215; 30 and 40 years, 135; 40 and 50 years, 68; 50 and 60 years, 33; 60 and 70 years, 16; 70 and 75 years, 2.

The mental disorder of 13 patients is attributed to "Millerism," and of 1 to "Fourierism."

The following extracts are worthy of particular notice:

"Most insane persons are injured by visits of their relatives and acquaintances. Their aversions, suspicions and troubles are often vividly recalled to their minds by such visits, and thus they are rendered much worse; or else the most painful feelings arise when their friends leave them; they become melancholy and sleepless, and, in consequence, often relapse from a state of advanced recovery. In some instances, the visits of friends are very useful; but the proper time for this kind of intercourse is soonest known to the physician who has charge of the case."

"Last year *a fair* was proposed, and the women engaged in it with such alacrity and spirit that in a short time they made a great number of curious and beautiful articles; and in January, on the anniversary of the opening of the asylum, the fair was held. From the sales, at that time, and of articles made by the women and since sold, we realized a sufficient sum to purchase a considerable addition to our library, some musical instruments, a ticket of admission for all the inmates of the asylum to the museum in Utica for one year, and also to erect a handsome green-house. The green-house we find to be an admirable appendage to our establishment. Already we have in it four hundred flourishing plants, and it is the daily resort, in winter, of many of the patients."

"But the greatest good that resulted from the fair, was the pleasure which the devising and making of various articles afforded to many of the patients and we hesitate not to say, that to several it was the means of restoration. Preparations for another are now in progress, with the like beneficial effects upon those engaged in it. We are confident that more good has resulted to our patients from their mental and bodily labour connected with these fairs, than from all the various games and plays they have ever resorted to, and they have had recourse to many, such as battledore, historical games, Dr. Busby, Mansion of Happiness, lottery games, Pickwick cards, &c. &c.

The schools "have been continued, and our confidence in their utility, and even their necessity for the improvement of many of the insane, has increased. We find that patients who have recovered here look back to their attendance in school as the greatest enjoyment they had, and often allude to it, and to the advantages they derived from it, in their letters. We believe that schools in lunatic asylums may be rendered still more useful than even we have found them, by having more perfect arrangements as regards school-rooms and school apparatus, than we have yet had."

"A manual or book of instruction, containing short precepts and maxims for the guidance of the insane, respecting the preservation of health, the government of the passions and control of the feelings, portions of which they would commit to memory, we believe would do much good, and we hope to be able to prepare such, in the course of another year. Those who have been once insane are so liable to a recurrence of insanity, that we feel as if we had not done a patient all the good we ought by curing him of one attack, but that we should endeavour so to instruct him that he may prevent another. We have great confidence, in many instances, of *man's power over himself to prevent and control insanity.* But to accomplish this, many need to be enlightened."

P. E.

ART. XX.—*Medical Jurisprudence.* By ALFRED S. TAYLOR, Lecturer on Medical Jurisprudence and Chemistry in Guy's Hospital, &c., &c. Edited, with notes and additions by R. EGLESFELD GRIFFITH, M. D., &c. Philadelphia: Lea & Blanchard, 1845. 8vo. pp. 539.

THE improvements in chemistry, the greater positiveness of information upon medical subjects, due to the adoption of the numerical system in their investigation, and the great care and attention which have been bestowed by some of the most eminent scientific men of the day upon medico-legal examinations, have caused a very rapid progress to be made in the science of medical jurisprudence. In our own country we have the excellent and standard work of Dr. Beck, at this moment the most complete and full of any in our language, and of which we hope soon to see a new edition with all the improvements and additions which have necessarily accumulated during the period which has elapsed since the publication of the last edition.

The very comprehensiveness of this work, however, is an objection to its use as a guide for students. It is important, therefore, to have some book, which, at the same time that it exhibits the state of the science as it actually is, is so condensed and free from historical details, as to enable the student to seize at once upon the doctrines and principles it sets forth. Such a work is placed within his reach by the publication under notice—a publication originally commenced by Mr. Taylor in 1836, under the title of "Elements of Medical Jurisprudence." It is, indeed, as he tells us in his preface, a new edition of that work, called for by the important additions to the science of which it treats during the last seven years; and so altered in its arrangement and typography, as to bring it within a small compass, so that it may serve as a practical manual to the medical jurist.

The plan of the work is to place those subjects first, and treat them at corresponding length, which are of greatest moment, and which are most frequently brought under the notice of the medical jurist. Poisoning, wounds and infanticide occupy the most prominent position, and have been very fully treated of; the first in some 230 pages, the second in 120, and the last in some 50 pages. The illustrations upon these and the other subjects discussed in this volume, are many of them entirely new, being derived from the author's own experience in Guy's Hospital, and from some of his former pupils; whilst, as he remarks himself, the remainder are drawn entirely from modern sources, the records of trials, and the various medical publications of Europe. This we conceive to be a very important matter, and when the materials were so abundant, as the copious citation of cases in elucidation of every point by the author shows them to be, we do not wonder that he should have selected them from fresh magazines.

Before leaving the author's preface we would cite from it the following paragraph demonstrating the responsibility attached to the duties of a medical witness, in which capacity any member of the profession may find himself called upon to act.

"When a crime, requiring medical evidence for its elucidation, is perpetrated, the duty of the whole investigation commonly devolves on the practitioner, who lives nearest the spot; it is therefore virtually upon his knowledge and experience, that the clear proof of the crime and the legal punishment of the offender must rest. He should remember that his duty lies strictly in developing the medical proofs of the crime; and he must endeavour to lay aside that feeling, which often induces us to see a criminal in every one who happens to be accused:—'*Priús est de crimine quàm de reo inquirendum.*'—(Grotius.)

"* * * * A man may be wrongly or rightly accused; but it is for a jury to decide this point, and that medical jurist appears to me to lose sight of the true object of the science, who devotes the energies of his mind, in a case otherwise doubtful, to only one side of the question. We ought not to hear, as we have in modern times, of a medical prosecution and a medical defence. Under such circumstances, a medical jurist can be regarded no longer as the scientific witness of truth, but as the biased advocate who will spare no effort to extricate the party for whom he appears. He entirely forgets that his evidence should always be given with a view,—not to the acquittal or conviction of a particular individual, but to the vindication of justice, and the due protection of society. He appears for the country, and neither for the crown (prosecution) nor the prisoner,—at least, however defective the present mode of summoning medical witnesses may be, this is the character which it seems to me he should endeavour to maintain."

In the first 10 chapters Mr. Taylor enters upon the consideration of the general subject of Toxicology. He first shows that a substance is to be considered poisonous rather from its effects and its adequacy to cause death with symptoms of poisoning, than from the dose in which these effects are produced; that whether the local action of a poison be the chemical destruction of a part, or a paralysis of the sentient extremities of the nerves, or a simple irritation, causing inflammation and its consequences, the cause of death is to be sought for in the influence excited upon a remote organ important to life; an influence brought into action either by the absorption of the poison, or by sympathy, or by both together. He adopts the classification now generally in use among toxicologists, dividing the various substances into three great classes, irritants, narcotics and narcotico-irritants,—the first being subdivided into mineral, vegetable, and animal. The different chapters which treat of the rules to be observed in investigating a case of poisoning, of the evidence of poisoning to be derived from the living subject where the individual survives, or from the dead subject, of the evidence furnished by chemical analysis and by experiments made on the inferior animals, are most valuable and masterly productions. They condense in a brief and lucid manner all that can be said upon these subjects, and throw out most excellent suggestions which should receive the attention of every medical man, as their observance is almost essential to the proper performance of his duties as a medical witness.

Having concluded his preliminary observations, by showing that as the medical witness has merely to prove, in a case of alleged poisoning, that the death was *certainly* due to the poison, "his opinion must be based upon *medical* facts only"—the question of the administration of the article by a particular person, or of the intent, being for the jury to decide by other evidence,—Mr. Taylor next proceeds to the consideration of the particular substances employed as poisons, or which, when accidentally taken, have proved such. We cannot, in this notice, follow him further than to say that, with very slight modifications, he adopts the arrangement of Dr. Christison. He treats, first, of the non-metallic irritants, comprising the mineral acids, oxalic acid, the alkalies and their salts; deeming it more convenient to consider the last two with the acids which they resemble in their effects, than with the metallic irritants where they properly belong,—especially as the metallic bases of the alkalies never require to be shown in medico-legal investigations. The author then passes on to the description of the metallic irritant poisons, prefacing his account with the remark, "that these are distinguished from the preceding by the fact, that they are all precipitated by sulphuretted hydrogen gas, or by the hydro-sulphuret of ammonia."

These are arsenic, with the different compounds of the metal so called, mercury, lead, copper and antimony and their salts, and a number of others. So much has been said with respect to most of these, that the readers of this journal must be familiar with the recent discoveries relative to them. With respect to arsenic, in particular, which is so frequently employed as a poison, Mr. Taylor is very full, and has gleaned from every source whatever is known to be best established in relation to its tests and its reputed antidotes. He does not think very well of the hydrated peroxide of iron as an antidote, as his experiments show that its antidotal powers do not depend upon its chemical action. He says, "numerous recoveries are said to have occurred under the use of this alleged remedy, but so far as I have been able to ascertain, in severe cases, emetics and the stomach-pump were also freely used; and, in the lighter cases, recovery would probably have equally taken place without it. * * * It is upon the use of these evacuants that we must chiefly rely in treating a case of arsenical poisoning. Viscid or mucilaginous liquids may also be freely exhibited; as these will serve to suspend the poison mechanically, and to sheathe the coats of the stomach from its action," (p. 125.) As Dr. Griffith properly remarks, the experiments of others show that more reliance than Mr. T. is willing to place on it, is due to it, and that it has proved eminently successful in several cases.

In respect to the tests, Mr. Taylor does not think it necessary to produce the metal arsenic in order to have a chemical certainty of its presence; and agrees with Dr. Christison, that the reduction process is not more conclusive in the opinion of a chemist than the method by fluid tests. The simplest test, however, he considers to be that recently discovered by Reinsch, which has been found capable of detecting arsenic in any of its forms or compounds. It consists in adding a few drops of muriatic acid to the suspected arsenical solution, and then placing in it a slip of bright copper; upon this, when the liquid is made to boil, a deposit of the metallic arsenic will take place, forming a steel-gray coating.*

He next passes to the consideration of the vegetable irritants, as aloes, colocynth, &c., and from them to the animal irritants, which are cantharides and poisonous articles of food. Dr. Griffith notices here shortly the disease which has been observed in our western states, called the "milk sickness," which he is inclined to attribute to some peculiar disease of the cattle, not dependent upon any particular kind of herb on which they feed. Of the narcotic poisons, opium and prussic acid claim and receive from Mr. Taylor most attention. As respects the former he states, that notwithstanding it has been urged that the chemist should seek for the other principles, the only one which he thinks it worth his while to search out is that to which opium owes its poisonous qualities, the meconate of morphia. For this the appropriate and best tests are nitric acid, which gives a bright red colour if morphia is present in a solution, and the permuriate of iron, which gives a deep cherry colour if meconic acid is present, thus together proving the existence of both the acid and the alkali.

An account of the narcotico-irritants, which are all of vegetable origin, as nux vomica, and strychnia, colchicum, conium, alcohol, &c., closes this admirable treatise on toxicology. It is complete in every practical respect; contains all the most recent methods of searching for poisons, and while it is concise and free from unnecessary detail, is yet written distinctly and most intelligibly.

The subject of wounds is next taken up, and Dr. Taylor, in the absence of a good definition of a wound, recommends the adoption of the definition used by some of the continental authorities: "A wound includes any description of personal injury arising from whatever cause, applied externally." This would require, however, legal sanction, for the decision of the courts is, that in a wound the skin must be broken. He examines into the necessary conduct of the medical man, when called in before the death of the party wounded, into the characters of a wound inflicted during life, or made after death, and into the subject of ecchymosis, laying it down as a principle that "the presence of ecchymosis is commonly presumptive evidence of the infliction of violence; but its absence does not negative this presumption."—p. 245.

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* See Am. Journ. Med. Sciences, N. S., No. xii., p. 501. April, 1843.

The medical witness will be called upon to testify by what means the wound was inflicted, and if by a weapon, what kind of weapon was used; he will also often be required to answer whether the wound was the result of suicide, homicide or accident, his attention being directed for this purpose to its situation, nature, extent and direction; circumstantial evidence, derived from the position of the body, or of the weapon, and from the marks of blood, will often aid him materially in the formation of his opinion. He must also be prepared to say whether or not the wound was the direct cause of death; if he is the least doubtful, he had better say so at once, than wait until he is compelled to admit it. He must recollect that death may follow a wound, without being caused by it, and be prepared to show how the death can be accounted for; that death may follow indirectly from the wound, the serious consequences not at first appearing,—this result being either unavoidable, or avoidable either by proper medical treatment, or by proper care on the part of the wounded person, or but for an abnormal or unhealthy state of the body of the wounded person, or being due to a surgical operation, rendered necessary in the treatment of a case.

The period at which a wound was inflicted and the length of time the deceased survived, and the acts indicative of volition and locomotion in persons mortally wounded, may become questions of great moment in the decision of a case. They are considered in several chapters, which are followed by others on wounds as they affect different parts of the body, on fractures and dislocations, on gunshot wounds, and on burns, scalds, &c., which last closes that portion of the work which relates to the important branch of legal medicine, of which we have given the above sketch.

The subject of infanticide next receives attention; the points studied in the different chapters being the determination of the age or degree of maturity of the child, the proofs of its having lived at its birth so as to ascertain whether it was alive when it was maltreated, or of its having been born alive; how long the child survived its birth and how long it has been dead; whether the death was from natural causes or from violence, and, in the latter case, whether the violence was of an accidental or a criminal origin. We can only state that these questions are all ably and fully considered in all their bearings; a clear appreciation of the value of the different tests of the child's being born alive, and having lived after it came entirely into the world,—which it is essential to prove in order to establish the crime of infanticide,—is presented and is followed by an interesting discussion of the means of distinguishing whether the death was natural, attributable to accident, or the result of malevolent design.

Several chapters follow upon drowning, hanging, strangulation, suffocation, especially that species of asphyxia resulting from the respiration of gases unfitted to support life, as carbonic acid, sulphuretted hydrogen, as generated in drains, sewers, &c., carburetted hydrogen, &c., and deaths from lightning, cold and starvation; all of which are briefly but well treated of.

The circumstances under which medical evidence is required in cases of alleged rape and the laws upon the subject, are concisely examined in the next chapter, which is followed by one on pregnancy and delivery. The former requires to be verified in law in two cases only, one when a woman declares herself pregnant at the time of her husband's death, and the other when she pleads it in bar of execution; these points are considered, and the reader is referred by Dr. Griffith for further information to Dr. Beck's full and able exposition of the subject in its relation to delivery and infanticide. As to delivery there is more interest, from the fact that it is closely connected with charges of concealment of birth, abortion and infanticide. The first two are considered immediately afterwards—infanticide having been already noticed. The remaining chapters on this branch of medical jurisprudence are devoted to the examination of the subjects of birth, inheritance, legitimacy, superfœtation, impotency and sterility, all considered in those aspects which may require the interference of a medical witness.

The concluding chapters of this work are occupied with insanity. The nature of unsoundness of mind, and the various forms which insanity assumes, the question of the propriety of restraining or interdicting an individual alleged to be insane, and of the responsibility during lucid intervals, and an examination of the responsibility of the insane for civil or criminal acts, are each separately and carefully but concisely studied.

We are glad to see that Dr. Griffith, in a note, calls attention to the frequent use of the plea of insanity in cases of trial for murder, a plea, the success of which in this country sets the criminal at liberty. "Much of this evil," he says, "is attributable to the medical practitioners called as witnesses in these cases; as they are aware if they declare that the accused is sane, they destroy his last hopes of safety, they manage, without stating that the prisoner is absolutely insane, to leave an impression on the minds of the jury, that he was not an accountable being at the time of the commission of the crime."—p. 519.

We have now reached the end of this work, and cannot sum up our opinion of its merits in better words than those which we find contained in the preface of the American editor. "The great merit of Mr. Taylor's work is its eminently practical character, for whilst the author has omitted or merely glanced at those questions on which the opinion or evidence of the medical witness is not required, it contains the most ample and clear expositions of those embraced in the true limits of medical jurisprudence. It is, in fact, the best manual of the science we have met with for a text-book, and it may also be most beneficially referred to by the physician or lawyer, for all the important facts connected with the subject on which it treats."

Dr. Griffith was well qualified as an editor, from the long experience which he has had in relation to this branch of science, and he has executed his task with much judgment, in no case altering the text, but adding in a note whatever might be useful, either to elucidate the subject more fully or necessary to express dissent from views supposed erroneous. The publishers have done their part well, following the typographical arrangement of the English edition, and producing a handsome volume. C. R. K.

ART. XXI.—*Elements of Materia Medica and Therapeutics.* By JOHN P. HARRISON, M. D., Professor of Materia Medica and Therapeutics in the Medical College of Ohio. Cincinnati, Desilver & Burr, 1845. Vol. I., pp. 405, 8vo.

THIS, we believe, is the first treatise devoted to the subject of Materia Medica and Therapeutics which has issued from the western press. The aim of the author is to present the subject treated of in a summary manner, pruned of irrelevancies with which, under the name of theories, it is usually invested, and in accordance with the strict declarations of observation.

As is customary in general treatises, the preliminary chapters are devoted to a consideration of the *Modus Operandi* of Remedial Agents, Effects of Medicines, Classification of Medicines, Circumstances which modify Therapeutical Indications, and, in addition, the Theory and Art of Prescribing, Formulæ and Doses, Synopsis of Incompatible Substances, Poisons and their Antidotes, Patent Medicines and Nostrums, and Indications of Cure.

The doctrine which the author advocates is expressed in the following paragraph: "In the following discussion we have endeavoured to place the whole question on a footing conclusively vital. Physiology, Pathology and Therapeutics—these are our chief if not conclusive media of inquiry." The modus operandi of medicines is defined to be—1, the changes of sensation, function and action induced by them on the organism in a state of health; 2, the changes which they are capable of producing on the system in states of disease, which changes are subversive of disordered sensation, function and action; and, 3, their poisonous or morbid agency on the animal economy. The *anti-humoral* position is assumed in estimating the precise modes by which medicines operate, and the author belongs to the class of solidists, a small one at the present time. However well the arguments may have been brought together, deduced from the difficulties which are connected with the proof that medicinal substances enter the circulation, and, in this way, produce their effects, it does appear to us that the difficulties are not cleared up with respect to an exclusive opposite supposition, which is attended with as much unsatisfactory explanation.

The effects of medicines "in contradistinction to their modus operandi," are the "results which, flowing from their operation on the living body in health and disease, induce certain changes of a sanative or morbid character." They are, according to the author, *immediate*, *cumulative*, *local* and *extended.*

The classification of Dr. Harrison can be recommended from its simplicity. The number of classes is six, under which are arranged what may be termed the orders. These are, I. ALTERANTS, *a.* Anti-flammatory; *b.* Anticachectic or invigorating. II. EVACUANTS, *a.* Blood-letting, Emetics, Cathartics. III. INCITANTS OR EXCITANTS, *a.* Stimulants, *b.* Antispasmodics, *c.* Tonics, *d.* Astringents. IV. SECRETANTS, *a.* Diaphoretics, *b.* Diuretics—Antilithics, *c.* Expectorants, *d.* Emmenagogues, *e.* Anthelmintics. V. NARÇOTICS, ANODYNES, and VI. DERIVATIVES, REVULSIVES, *a.* Baths at various temperatures, *b.* Frictions, *c.* Rubefacients, *d.* Epispastics, *e.* Pustulents, *f.* Suppuratives, *g.* Cauterizing—counter-irritants. This arrangement is predicated upon the indications which medicines are conceived to be calculated to fulfil, and which are in a measure set forth in the classification.

The chapter devoted to the "circumstances which modify our therapeutical indications," comprises the details usually set forth in other works—but under a different title, as for instance, the "circumstances which modify the operation of medicines." Pregnancy certainly modifies the indication, as does the existence of hernia, and it may modify the operation of medicines—but in the case where an individual is habituated to the use of opium, the action of this drug is decidedly modified, although the indication be not. We should prefer to call these the circumstances by which we are guided and governed in the employment of medicines.

Next the author treats in successive chapters of the theory and art of prescribing, &c., of incompatibles, poisons, and their antidotes, and of *Patent Medicines and Nostrums.* This last, interesting and important as the subject may be, would be better suited for an appendix than the main body of a work on Materia Medica and Therapeutics, professedly scientific. The indications of cure set forth by the author are: 1. the promotion of healthy secretions. 2. The derivation of action. 3. Reduction of the activity of the powers of life. 4. The invigoration of the vital energies. 5. The alteration of capillary action, and 6. The subdual or mitigation of pain and irritability.

The only class of remedies treated of in this volume are alterants; the modus operandi of which is explained in accordance with the previously exposed views of the author. The practical application of this class to the cure of diseases, as detailed in extenso, is that of a sensible unbiased physician. With respect to the excessive use of calomel in the treatment of fever, we quote the following paragraph to show the opinion of an experienced practitioner of the Valley of the Mississippi. "The very large doses of calomel recommended by some writers do not meet approval from the most reflecting and judicious practitioners. Of doubtful utility in extreme cases of dangerous seizure, they inflict at times, incalculable evil on the patient in ordinary attacks of fever. They are not called for; they are given without the guidance very frequently, of any sound views of the pathology of the case, under a vague, misleading conception of venous congestion of the liver." The practice and teaching of Prof. Harrison upon this point, it is to be hoped, will meet with the consideration they merit. J. C.

Art. XXII.—*The Cyclopædia of Practical Medicine: comprising Treatises on the Nature and Treatment of Diseases, Materia Medica and Therapeutics, Medical Jurisprudence*, &c. &c. Edited by John Forbes, M. D., F. R. S., Physician to the Queen's Household, &c.; Alexander Tweedie, M. D., F. R. S., Physician to the London Fever Hospital, &c. &c.; John Conolly, M. D., late Professor of Medicine in the London University, &c. Thoroughly revised, with numerous additions by Robley Dunglison, M. D., Professor of Institutes of Medicine in Jefferson College, &c. Philadelphia: Lea & Blanchard, 1845, 4 vols. super-royal 8vo: pp. 788, 804, 782, 770.

Entertaining the high opinion we have expressed (see No. for July, 1844, p. 194) of the value of this work, we must congratulate the profession on its completion, and, at the same time, compliment the American editor and publishers for the good faith with which they have fulfilled their promises as to its appearance—a punctuality unprecedented, so far as we know, in the publication of any other work of the same character.

The four volumes contain 3144 pages of double columns, and comprise a real treasury of medical knowledge. They are furnished at so moderate a price as to be within the reach of every practitioner, and a copy should be in every medical library.

Art. XXIII.—*Remarks on the Influence of Mental Cultivation and Mental Excitement upon Health.*—By Amariah Brigham, M. D., Superintendent and Physician to the State Lunatic Asylum, Utica, N. Y. Third Edition. Philadelphia, Lea & Blanchard, 1845: pp. 204, 12mo.

The object of this work, as perspicuously stated by its able and accomplished author, is to awaken public attention to the importance of making some modification in the method of educating children, which now prevails in this country. It is intended to show the necessity of giving more attention to the health and growth of the body, and less to the cultivation of the mind, especially in early life, than is now given; to teach that man at every period of his existence, should be considered both as a spiritual and material being—as influenced both by physical and moral causes, and that, therefore, all plans for his improvement should be formed, not from a partial view of his nature, but from a knowledge of his moral, intellectual, and physical powers, and of their development.

The amount of physical suffering occasioned by a neglect of the truths unfolded in this work, are incalculable. The feeble constitutions—excessive nervous sensibility—and vast amount of cerebral disease met with in the young of both sexes, attest the truth of this assertion. And, after all, the attempts to over-cultivate the minds of children are fruitless, since well-developed organs and proper physical powers are necessary for the manifestation of good mental powers.

We wish that we could place a copy of this work in the hands of every parent and of every teacher in the country. It contains maxims of the highest value, and which we are happy to find are appreciated, as is shown by its having gone through three editions in this country and the same number in Great Britain.

ART. XXIV.—*Observations on the Structure and Diseases of the Testis, with numerous Plates.* By Sir ASTLEY COOPER, Bart., F. R. S., Sergeant-Surgeon to the Queen, Consulting Surgeon to Guy's Hospital. From the Second London Edition. Edited by BRANSBY B. COOPER, F. R. S., Surgeon to Guy's Hospital, Lecturer on Anatomy, &c., &c., &c. Philadelphia, Lea & Blanchard, 1845: pp. 296, Pl. 24, super-royal 8vo.

The Anatomy of the Thymus Gland, with numerous Plates. By Sir ASTLEY COOPER, Bart., F. R. S., &c., &c. From the last London Edition. Philadelphia, Lea & Blanchard, 1845: pp. 48, Pl. 5, super-royal 8vo.

THE works of Sir Astley Cooper are so well known, and their great value is so universally admitted, that it would be supererogatory now to say any thing in their praise. His treatise on the Testis has always been among the most popular of his productions, from its great practical utility and the valuable original contributions it contains to our knowledge of the anatomy and diseases of that organ. Every one, indeed, who desires to thoroughly acquaint himself with the subject of which it treats, must consult it.

The work on the Thymus Gland, though of less practical utility, contains the best account we possess of the anatomy of that organ.

These two publications are issued in a splendid super-royal octavo volume, with plates executed in the best style, and should have a place in every medical library.

ART. XXV.—*The first Lines of the Theory and Practice of Surgery; including the Principal Operations.* By SAMUEL COOPER, senior Surgeon to University College Hospital, &c., &c. With notes and additions. By WILLARD PARKER, M. D., Professor of Surgery in the College of Physicians and Surgeons in the University of New York, &c., &c. Fourth American, from the Seventh London Edition. New York, S. S. & W. Wood, 1844. 2 vols. 8vo: pp. 540 and 531.

THE First Lines, and the Surgical Dictionary, of Mr. Cooper, were the favourite books with surgical students, when we were in our pupilage, some twenty-five years ago, and notwithstanding the numerous publications which have since appeared, they still retain, and justly so, a considerable portion of their popularity.

The present edition of the first-named work is handsomely got up, and is enriched with notes, which we regret are not more numerous, by the eloquent Professor of Surgery in the College of Physicians and Surgeons, New York.

ART. XXVI.—*American Medical Biography: or Memoirs of eminent Physicians, embracing principally those who have died since the publication of Dr. Thacher's work on the same subject. With Engravings.* By STEPHEN W. WILLIAMS, M. D., late Professor and Lecturer on Materia Medica, Medical Jurisprudence, &c. Greenfield, Mass., 1845: pp. 664, 8vo.

WE have space only to announce the publication of this volume, and to say that it contains a number of interesting biographical memoirs, some original, but the greater number collected from the medical journals and other sources.

SUMMARY
OF THE
IMPROVEMENTS AND DISCOVERIES
IN THE
MEDICAL SCIENCES.

ANATOMY AND PHYSIOLOGY.

1. *Prof. Mulder's Researches on the Chemical Physiology of the Red Colouring Matter of Blood.* (*Versuch einer allgemeinen physiologischen Chemie.*)—Mulder sets out by observing that the functions of the red colouring matter must undoubtedly be an important one, inasmuch as it exists in such a large number of animals otherwise so distinct in their structure and habits, although at the same time it must be admitted that this substance is not absolutely essential to animal life, as it is wanting altogether in some tribes of animals. Regarding its origin, it must be assumed as being capable of being actually generated, *de novo*, in the organism, as it does not exist in the vegetable kingdom; consequently it cannot, like protein, be traced to the elements of food in the cases of the herbivora. It is hence fair to presume, that if generated by the vegetable feeder, the carnivora must possess a similar power.

The colouring matter is normally enclosed in a sac or cell composed of a thin membrane, consisting chiefly of protein, and capable of admitting of percolation through its walls under certain circumstances, although it generally retains the coloured fluid it encloses sufficiently firm to prevent its admixture with the serum. Within the sac is a nucleus of similar chemical composition to the membrane, and the whole thus organized constitutes the *blood-disk, globule*, or *red particle.*

It has been generally assumed, that hæmatosine exists in two distinct states in venous and arterial blood; the former containing, according to the received hypothesis, most carbon or carbonic acid, and the latter most oxygen. These distinctions are founded solely on differences in colour, and are unsupported by a single analysis. It was supposed, that in the lungs the red particles of venous blood exhaled carbonic acid, and absorbed oxygen in altering their tint to that of arterial blood. It is now well known that analogous changes of colour are produced by merely immersing a piece of black venous clot in a saline solution, the vivid vermilion tint being assumed without any change in the proportion of oxygen.

A considerable proportion of colouring matter may be removed from a clot of blood by digestion in alcohol containing either sulphuric acid or ammonia.

The colouring matter of blood freed from other matters invariably presents the same constitution, viz.:—

44 atoms Carbon = 264
22 —— Hydrogen = 22
3 —— Nitrogen = 42
6 —— Oxygen = 48
1 —— Iron = 28

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If a current of chlorine be transmitted through a solution of colouring matter of blood, the iron leaves the other elements, forming a chloride of iron, and the atom of metal thus removed is replaced by six of chlorous acid,* and the following compound is formed—

$$(C_{44}\,H_{22}\,N_3\,O_6)+6\,(CO_3).$$

During this process, the red colour of the hæmatosine is destroyed, and the new compound appears as a white flocculent precipitate. It must not, however, be assumed that the mere removal of the iron by the chlorine destroyed the colour, for that metal may be removed without materially affecting the red hue of the hæmatosine. For this purpose, let some dried coagulum of blood, (consisting chiefly of red particles, and protein compounds) be macerated in concentrated sulphuric acid; after some days, water may be added, and the remaining excess well washed on a filter. During the action of the acid on the clot, *hydrogen gas is evolved*, and the iron dissolves, forming a proto-sulphate, which passes through the filter. The coloured matter is left behind, preserving its original red hue, notwithstanding the removal of the iron, mixed with a combination of protein, with sulphuric acid, in the following proportions:—

	C	H	N	O	
1 atom of iron-free hæmatosin	= 44 +	22 +	3 +	6	
1 atom of protein	= 40 +	31 +	5 +	12 +	1 atom Sulphuric acid.
4 atoms of water		4		4	
	84 +	57 +	8 +	22 +	1 atom SO_3

If, instead of digesting mere coagulum in the acid, pure red particles be substituted, the experiment is more satisfactory. For this purpose, allow blood as it escapes from a vein to fall into a solution of nitrate of potass. The coagulation of the fibrin is thus prevented, and a dense deposit of red particles falls to the bottom of the vessel; these, when well drained from adhering serum, and dried, may be mixed with strong sulphuric acid; *hydrogen gas is evolved just as when metallic iron is digested in the acid*, and after some days a solution of sulphate of iron is obtained, and the insoluble red colouring matter is thus left free from iron, but retaining its peculiar tint. The non-ferruginous hæmatosin consists of:

$$C_{44}\,H_{22}\,N_3\,O_6.$$

Having thus proved that the colour of red particles does not depend upon iron, Mulder next proceeds to combat the doctrine that these bodies are "carriers of oxygen," and that iron is oxidized during respiration, as assumed by Liebig: an assumption which forms the basis of that philosopher's theory of respiration.

It appears that iron is so intimately connected with the other elements of hæmatosine, that it cannot be removed even by long digestion of red particles of blood in hydrochloric or dilute sulphuric acid. Consequently, even if no other explanation of the absorption of oxygen during respiration existed, these facts are sufficient to show the high impossibility of the iron being oxidized in the lungs, since it will not yield to hydrochloric acid. The converse has indeed been stated by Liebig, but his statement that weak acids remove iron from clots of blood, is explained by the fact that all the albuminous elements of blood contain a portion of this metal in a state which admits of ready solubility in acids.

If, as is assumed in Liebig's theory, sesquioxide of iron existed in arterial, and proto-carbonate of iron in venous blood, almost any dilute acid would be capable of dissolving out the oxide, which, as we have seen, is not the case. The fact of the iron really existing in the metallic state is, moreover, strongly supported by the evolution of hydrogen gas which occurs when sulphuric acid is digested on the clot, as pure red particles; this metal probably exists as an integrant component of hæmatosine, just as iodine does in sponge, sulphur in cystine, and arsenic in the curious kacodyl series of compounds; thus:—

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* Mulder regards this acid (Chlorige-saure) as composed of CO_3 and not of CO_4 as generally assumed. The former is the composition assigned to it by Count Studion.

$$\begin{array}{l} C_4, H_6, As, = \text{Kacodyl.} \\ C_4, H_6, As, + 0 = \text{Alkarsin, or Oxide of Kacodyl.} \\ C_4, H_6, As + 30 + 3\ \text{aq.} = \text{Alkargin, or Kacodylic acid.} \end{array}$$

Further, if iron existed as sesquioxide of hæmatosine, and is removed by strong sulphuric acid, the residual iron-free matter ought to consist of—

$$\left.\begin{array}{r} C_{44}, H_{22}, N_3, O_{4\frac{1}{2}}, \\ \text{instead of } C_{44}, H_{22}, N_3, O_6, \end{array}\right\} \begin{array}{l} \text{which is} \\ \text{really left,} \end{array}$$

$$\begin{array}{r} \text{for hæmotosine,} = C_{44}, H_{22}, N_3, O_6, \\ Fe - Fe\ O_{1\frac{1}{2}} = C_{44}, H_{22}, N_3, O_{4\frac{1}{2}} \end{array}$$

—consequently the actual results of analysis are opposed to Liebig's theory.

From experiments of Scherer, it appears that when scarlet arterial ox-blood is beaten to separate fibrin, and diluted with thrice its volume of water, it assumes a venous hue, and a current of oxygen gas transmitted through it does not redden it. The mixture of a little oil, milk, chalk, or gypsum, with the black blood, instantly restored its florid hue, so that the red colour is owing to other circumstances than the absorption of oxygen. Scherer, indeed, concluded that the arterial colour depended on white opaque particles diffused through the fluid.

It appears to have been observed by Hewson, that bright red blood-corpuscles are always bi-concave; these may, therefore, be supposed to reflect a great amount of light, and thus act like the white reflecting particles of chalk, milk, &c., in Scherer's experiments. In dark-red blood, the corpuscles are convex, and the enveloping membrane much thinner than in bright-red blood, so that light passes easier through them, and they readily burst, allowing their contents to mix with serum when blood is largely diluted with water: the well-known effects of saline solutions in reddening blood is readily explained by their producing exosmosis, and consequently, a partial emptying of the sac of the blood-corpuscles, which then becoming doubly concave mirrors, reflect much light, and cause the fluid containing them to present an arterial tint. A current of carbonic acid gas will cause such blood to become again black, by altering the form of the reflecting corpuscles, causing them to become bi-convex.

Protein readily combines, as we have seen, with oxygen, and forms a soluble tritoxide and insoluble binoxide, both frequently being formed simultaneously in health, and abundantly so in inflammation, constituting the buffy coat of inflamed blood. In the process of healthy respiration these oxides are formed, and immediately tend to solidify, as we see in "buffy coat;" they fix round each blood-corpuscle, therefore; virtually making their investing membrane thicker and more opaque, better enabling it to reflect light, and producing the bright red colour of arterial blood. If we conceive such a layer of oxy-protein (buffy coat) to form round each blood-disc, and to go on contracting, it would produce a "cupped" state of two surfaces of the corpuscle (just as is seen on the upper surface of inflamed blood), and by converting them thus into double concave lenses, produce a condition more favourable for the powerful reflection of light, and necessarily heighten the light-red colour of arterial blood. On reaching the capillaries, the coating of oxy-protein is removed, the protein being employed for the repair of tissue, and the oxygen used for effecting the metamorphosis of effete and exhausted structures. The corpuscles, losing their opaque covering, have their power of reflecting light diminished, their concave surfaces are lost, and the whole assumes a venous tint.

When a piece of black venous clot is exposed to the air, it becomes red, in consequence of absorption of oxygen, not by the colouring matter, but by the protein: and the opaque oxy-protein causes the mass to reflect a red light, just in the same manner that dark venous blood does when in a vessel of "milk-glass." A drop of an alkaline fluid destroys the red colour of the clot by dissolving the oxy-protein.

Digested in salt and water, a black clot becomes red by partly emptying the corpuscles by exosmosis, and by thickening their investing membrane. The subsequent washing with water removes the salt, fills the corpuscles by endosmosis, thus altering their figure, and diminishing their reflecting power, and causing the clot to look nearly black.

All dilute acids, even the carbonic, blacken blood by altering the figure of the corpuscles, and dissolving the reflecting layer of oxy-protein round them.

Scherer regards the conversion of black venous into red arterial blood to depend upon the loss of carbonic acid, the absorption of oxygen, and the presence of reflecting particles of the white opaque contents of the thoracic duct. Mulder believes the simple formation of the oxides of protein to be a sufficient explanation. He does not consider that when carbonic acid blackens blood it affects the red particles further than by physically altering their investing membrane by diminishing its reflective power. He refers the very black colour of portal blood to such a state of the corpuscles, either from the action of carbonic acid, or more probably of a little free alkali (soda).

The real function of red corpuscles remains yet to be discovered; all evidence appears opposed to their playing any part of importance in the process of respiration. Mulder believes that they are generated from the normal constituents of the blood in the general circulation. Their destination is obscure: if they undergo a metamorphic change prior to their development into living tissue, the products of their decomposition may be probably traced to the *bilifulvin* of the bile. In all probability, the red particles act physiologically, as has been suggested, in constituting the elements of many living tissues, playing the part of nucleated cells, (as indeed is now pretty generally admitted.)

The following is a brief summary of the above views of Mulder:—

1st. The red particles of blood contain iron as a simple element, combined with nitrogen, carbon, hydrogen and oxygen, and are chemically identical in venous and arterial blood.

2d. In traversing the capillary system of the lungs, the protein of the blood combines with oxygen, generating a compound analogous to "buffy coat," which forms a contractile covering to the blood-corpuscles; causing them to become more opaque, and giving them the figure of doubly concave lenses.

3d. In the general capillary circulation, the oxy-protein surrounding the corpuscles is decomposed, the oxygen being used for dissolving old tissue, and the protein deposited to supply its place. The corpuscles lose their reflecting concave figure, and become more transparent by this change.

4th. The difference of colour between venous and arterial blood depends solely upon a physical difference in the surfaces of the corpuscles; being semi-opaque concave mirrors in the latter, and mere transparent convex bodies in the former.

5th. Whatever alters the figure of the corpuscles, or gives blood the power of more powerfully reflecting light, at once alters its tint.

6th. During respiration, the colouring matter of the blood undergoes no change, and, indeed, plays no part, either as a whole, or in regard to the iron which exists as an element in it.

7th. Iron is not essential to the red colour of blood corpuscles, although its presence is probably necessary for their formation and development.—Dr. G. Bird, in *Lond. Med. Gaz.*, 27 Dec., 1844.

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2. *New method of analyzing the Blood.*—At the scientific congress lately held at Milan, Dr. Polli read an essay on a method of analyzing the blood, particularly adapted for clinical investigations. The following are the chief conclusions of the essay:—

1. A knowledge of the absolute quantities of the elements of the blood is not more important in studying its pathological conditions than is the knowledge

of their relative quantities. On the contrary, all our inductions rest on the relations of their proportions and relative modifications.

2. The proportions of the elements of the blood may be calculated with ease and precision by employing the aërometer in a suitable way.

3. The aërometrical analysis of the blood is the most suitable for clinical purpose. Without altering the constituents of the blood, without attempting the difficult process of separating them, it affords with promptness and facility the chief results of a chemical analysis.

The aërometrical analysis is performed in the following manner:—

1. Examine in a test-glass immediately on its issue from the vessels with the thermometer and the aërometer.

2. Defribrinate the blood by means of whisking it in the usual way, and again measure its density with the aërometer after having brought it to its original temperature on the water bath.

3. Decant and separate the cruor from the serous portion obtained by letting the liquid stand, and again examine the liquid with the thermometer and aërometer, separate the albumen by boiling the serum, to which water has been previously added, and then ascertain the density of the residual aqueous liquid. It is evident that by subtracting successively the densities obtained, we shall have the number proportional to the fibrin, the globules, the albumen, the salts, &c., which are contained in a given quantity of the blood; and by repeating the operation on blood, abstracted at two or more bleedings, we shall obtain results comparable with each other.—*Dub. Med. Press,* Dec. 11, 1844, from *Gaz. Méd. de Paris.*

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3. *Buffy Blood.*—From some researches lately made by Mr. Gulliver, it appears that the rate at which the red blood-corpuscles sink in a fluid, may give a very incorrect measure of its tenuity, since they fall much slower in serum or in liquor sanguinis, made thinner and lighter by weak saline solutions, than in the same animal fluids, made thicker and heavier by gummy matter. The blood, too, may have its coagulation retarded, while it is thinned and reduced in specific gravity; and yet no buffy coat appear.

In the regularly buffy blood of the horse, as in other very buffy blood, he found that there was a very remarkable acceleration, after two or three minutes in the rate with which the corpuscles subsided, so that, if this rate were to be taken as a correct measure of the tenuity of the liquor sanguinis, we should be forced to admit the improbability, that it becomes *thinner after its removal from the animal.* The aggregation of the corpuscles seems to be connected with the accelerated rate of subsiding, for it is prevented or reversed by salts which disperse the corpuscles, and are increased by viscid matters which increase the aggregation.

The experiments oppose the conclusion of Dr. B. Babington, that slow coagulation causes the buffy coat; and the conclusion of Hewson and Davy, that an attenuation of the serum is the cause of the buff; while the later views of Hermann Nasse, that the more rapid sinking of the corpuscles in buffy blood results from their greater aggregation, seem to be confirmed by an inquiry conducted differently, since the German professor made his observations on the microscopic state of the corpuscles, while their sinking in fluids of different consistency is of course a matter for observation with the naked eye.—*Dub. Med. Press,* Dec. 11, 1844.

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4. *The Gastric Juice, its nature and properties.*—M. Blondlot in an interesting treatise on Digestion, recently published in Paris, details very numerous experiments made upon a dog, in which a fistulous opening into the stomach was maintained for upwards of two years. The gastric juice was obtained in very large quantities. Submitted to distillation, the fluid passing over did not exhibit the slightest acid re-action, whilst the residue in the retort was always strongly acid. It is therefore certain that the acid of the gastric fluid is neither hydrochloric nor acetic acid, since both these are volatile. The gastric fluid of other

animals gave the same result on being distilled. When chalk or any other carbonate of lime is added, no effervescence ensues, which further proves the acid not to be the lactic. M. Blondlot concludes, that the acid re-action of healthy gastric juice is owing to the presence of superphosphate and biphosphate of lime. He adds, 1st, that there is no other acid which can remain acid, and fail to decompose carbonate of lime. 2d. That sulphuric acid, added to gastric juice, precipitates an abundance of sulphate of lime, and oxalic acid precipitates oxalate of lime. 3d. Potass, soda ammonia, and lime water, produce abundant precipitates of neutral phosphate of lime. 4th. The calcined ash of gastric juice is not deliquescent; dissolves without effervescence in hydrochloric acid forming chloride of calcium; it therefore contains neutral phosphate of lime, the excess of acid being drawn off in the calcination.

M. Blondlot also made many experiments, to determine whether, during digestion in the healthy stomach, lactic acid is formed by the transformation of sugar starch, or other substance, and his conclusion is, that it is never found. He could never find even a trace of it, although he analyzed the fluid expressed from the contents of the stomach, after remaining on the stomach various periods. He conceives that the acid of the gastric juice prevents the lactic acid fermentation, just as other acids are known to do under other circumstances. In confirmation of this, M. Blondlot relates many experiments upon birds and ruminating animals, which show that the formation of lactic acid in these creatures takes place only in those parts of the alimentary canals where no acid is present—namely in the crop of birds, the first and second stomach of ruminants, and the cœcum of man, and other animals. He first proves that the acid found in these cavites is not secreted by their walls. Feeding sheep, goats, chickens, and pigeons on food destitute of sugar, and examining the fluid found in the cavities mentioned, he found it invariably alkaline. On the other hand, the addition of sugar to the food produced an acid fluid in the same cavities which proved to be the lactic. The contents of the cœcum are not more acid than those of the small intestines, except sugar has been taken in the food; but when sugar has been taken, it undergoes the lactic fermentation in the cœcum. These experiments agree with those of Mr. Ross, published in The Lancet for January 20 and February 10, 1844. Tiedemann and Gmelin found acid in the crop of a pigeon, which had fed for several days on nothing but meat; but this, as M. Blondlot shows, probably had regurgitated from the stomach—an accident requiring precautions to prevent, after death.

M. Blondlot believes that the digestive property of gastric juice depends, not on its obvious chemical constitution, but upon a peculiar organic principle. If exposed to a temperature of 104° to 122° F., or higher, it loses entirely and irrecoverably its digestive powers, although to all appearance, and even as to its composition, as made known by analysis, it remains unchanged. With the exclusion of the air, gastric juice may be kept for two years without loss of its activity; but with the free access of air, it purifies in five or six days, although the chyme which it forms from nitrogenous organic substances may be preserved for two orthree months without change. The precipitation of all the lime it contains does not affect its activity, nor are its chlorides indispensable, but whatever acts upon its organic constituents, heat, strong alchohol, or strong acids, or which removes them, such as animal charcoal, chlorine, tannic acid, or acetate of lead, destroys all its digestive properties.

M. Blondlot also shows—a. That coagulated albumen resists the action of the gastric juice only from its compact form. When coagulated in very small particles, as white of egg beaten into a froth and poured into boiling water, it is digested as quickly as soft fibrine. b. That the action of the stomach in coagulating milk is not due to its digestive principle solely, but to its acid, which acts like lactic acid. c. The effect of the gastric fluid upon bones, whether entire or not, is to disintegrate the animal matter slowly, beginning at the surface, and to reduce the earthy matter into a fine chalky powder, but without dissolving or decomposing it. The earthy matter not being dissolved, proves that no hydrochloric acid has acted upon it, but it is all discharged with the fæces.

The physiological results of M. Blondlot's experiments confirm those of Dr. Beaumont, which are already familiar to our readers.*—*Lancet*, 25th Jan., 1845.

5. *Chemical Investigations into the Properties of the Gastric Juice.*—MM. Bernard and Barreswil have made an elaborate experimental investigation into the properties of the gastric juice. They start with the assumption that this fluid owes its digestive properties to the union of two principles: 1st, an acid; 2d, a peculiar organic matter destructible by heat. What is the nature of the acid? "The principal fact which has been adduced to prove that the acid reaction is owing to the presence of biphosphate of lime is, that it may be treated with carbonate of lime without effervescence. Our experiments show that this arises from the dilution of the acid, which allows the carbonic acid to be dissolved as it is formed. When, therefore, the gastric juice is concentrated, it causes a considerable effervescence with chalk. Moreover, gastric juice dissolves neutral phosphate of lime, whilst this salt is entirely insoluble in solution of the biphosphate." On distilling gastric juice, the first distillate exhibits no acid reaction. If a mere trace of acetic acid or acetate of soda is added, and afterwards distilled, it gives an acid reaction; the normal acid is not therefore acetic. This also appeared, at first sight, to prove it could not be hydrochloric acid; but on distilling water rendered slightly acid by hydrochloric acid, nothing passes over at first but pure water, the acid not distilling until the end of the operation. On distilling gastric juice a neutral limpid liquor passes over, which does not precipitate nitrate of silver, but when about four-fifths has distilled over, the distillate is perceptibly acid, yet, nevertheless, it does not render solution of nitrate of silver turbid; but at the end, and when only a few drops of the gastric juice remain in the retort, an acid liquid passes over which precipitates salts of silver; this was, doubtless, hydrochloric acid. Does this acid exist free in gastric juice, or has a chloride been decomposed in this operation? When the least trace of oxalic acid is added to gastric juice which we know contains lime, a turbidness is produced from the formation of an insoluble oxalate of lime: but if to water acidified with 2000ths of its amount of hydrochloric acid, and containing chloride of lime, the same reagent be added, no turbidness ensues. This clearly proves that hydrochloric acid exists as a chloride in the gastric juice, and not in a free state.

When concentrated by evaporation, gastric juice is strongly acid, effervescing with chalk, and not losing its acid reaction in presence of an excess of the chalk. This proves the presence of *phosphoric acid*. On saturating the acid with lime and oxide of zinc, and filtering the solution, the neutral filtrate contains both zinc and lime, therefore the phosphoric acid is not the only free acid in the juice. What is the acid combined with the zinc and lime in the filtered solution? It is one which, as we have seen, passes over towards the end of the distillation, and does not precipitate salts of silver. These characters belong to lactic acid. On distilling water slightly acidulated with lactic acid, and a small quantity of chloride of sodium added, it presents a complete analogy to gastric juice; first, pure water passes over, then an acid which does not precipitate salts of silver, and the last drops carry over hydrochloric acid. So that it is evident that the presence of hydrochloric acid in the last product of distillation of gastric juice is owing to the decomposition of the chlorides by lactic acid.

Hydrochloric acid cannot exist in a free state in presence of an excess of a lactate, a phosphate, or an acetate. "We have observed," say the authors, "in the acid of the gastric juice all the characters of lactic acid, as pointed out by M. Pelouze; both give soluble salts of lime, barytes, zinc, and copper, a double salt of copper and lime, deeper in colour than the simple salt, a salt of lime soluble in alcohol, precipitated by ether." From the above facts, MM. Bernard and Barreswil conclude that the acid reaction of the gastric juice is not owing to biphosphate of lime, but arises from a free acid, which is not hydrochloric acid nor acetic acid. They have always found lactic acid with a minute proportion of phosphoric acid, the latter being a product of the reaction of the lactic acid on the phosphates present. According to their opinion, lactic acid is a constant production of the stomach. They do not mean to say that the digestive powers of the gastric juice are owing to lactic acid; on the contrary, they think if an acid reaction be indispensable, other acids may supply its place, because among the various salts constantly introduced into the stomach with the food, some will have their acid replaced by the free lactic acid of the stomach, and the new acid liberated may supply the place of the normal acid.—*Ib.* from *Comptes Rendus*, Dec. 9, 1845.

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* See Am. Journal Med. Sci., May, 1834.

6. *Enlargement of the Breasts in a male—Atrophy of the Genital Organs.*—A man, æt. 55, was presented, Dec. 12, 1844, to the Sheffield Medical Society, having a remarkable development of the breasts. He stated that he had been very healthy, had three children, the eldest 25, the youngest would have been between eight and nine years of age; that in an engagement in Spain, he tried to jump over a trench, but, being laden with his knapsack, failed, and fell with his chest against the opposite margin. He received a blow on the lower part of the spine, and falling some depth, received a violent blow on the occiput, which rendered him insensible. He was under the care of Mr. R. Alcock for some time. Since that period the mammæ have gradually increased in size, his voice has diminished in power, his beard has diminished, the right testicle has diminished to a very small size, and the left is still diminishing, and he has had no sexual desire since. He is partially paralyzed on the right side, and moves about very much bent. Skin fair and soft; beard very thin and soft; voice weak; mammæ pendulous; nipples rather prominent; the glands very large and distinct; penis small and shriveled; right testicle having the feeling of condensed membrane; left of a moderate size, but not firm, and tender on pressure; the pelvic region round, more like that of a woman, not presenting the angular appearance of the male. He denies having ever had venereal disease, or taken any quantity of mercury.

Cases were mentioned of enlargement of the breasts in the male, related in the "Philosophical Transactions," vol. 41; and in Captain Franklin's "Journey to the Polar Regions;" and of emasculation consequent upon blows or wounds of the occiput, related by Larrey, in his "Clinique Chirurgicale;" and by Hennen in his "Military Surgery." There was no appearance of abscess in the mammæ.—*Prov. Med. & Surg. Journ.*, Jan. 8th, 1845.

7. *Case of Ichthyosis Intra-Uterina.* By Wm. Smellie, M.D. (*London and Edinburgh Monthly Journ. Med. Sci.*, Dec. 1844.)—The child was a male, and born in the eighth month. The body was covered with a thick, smooth, and shining epidermis, fissured in many parts, more especially about the neck, in the axillæ, groins, and popliteal spaces: all over the breast, abdomen, and toward the lumbar region, there were large fissures of a red and raw appearance; the arms and legs were somewhat œdematous, and had a pellucid appearance, from the horny nature of the epidermis; the fingers and toes, on which the rudiments of nails were scarcely perceptible, resembled artificial appendages rather than natural formations; the head was covered with hair, and the scalp was entirely free from fissure. There were some small fissures on the face, about the angles of the mouth, which was so much dilated and distorted, that the lips could not be brought together: near, and external to each ala nasi, there was a horny excrescence in the epidermis about the size of a hemp-seed, and about the external canthus of each eye, which was entirely concealed; the internal lining membrane of the eyelids protruded in the shape of a bloody tumour. The nose and ears were natural. The natural passages were all pervious. The child squalled vociferously, and greedily swallowed syrup or milk from a spoon; it would also have sucked with avidity, could it have brought its lips together. Such was the condition of this infant at birth; it lived for seven

days, and Dr. S. saw it every day during that period; but before its death, its external appearance was much altered. From the second day till its death, the epidermis continued to fall off in large pieces, and first from the parts where the fissures were most numerous. When it had come away from the circumference of the mouth, the mouth was of the natural formation, and the child sucked greedily. The bloody tumours from the eyes gradually disappeared, and the eyes became visible; these circumstances go far to prove the soundness of the view of the etiology of this deformity adopted by Drs. Vrolik and Simpson. The sufferings of the infant at this period must have been dreadfully severe, from the tenderness of the skin exposed by the desquamation of the cuticle. By the continued exertion of the voice, it was exhausted from a loud squall to a scarcely audible wheezing or hissing. Latterly a serous fluid exuded from almost the whole surface of the body, and sphacelated spots appeared about the articulations. By imagining the case of a being flayed alive, we have some idea of its appearance and sufferings before death relieved it.

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8. *Researches on the Functions of the Spinal-Accessory Nerve.* By M. Claude Bernard, of Villefranche.—Two opposite views have been held relative to the functions of the spinal-accessory nerve; the one, that of Sir Charles Bell, that it was a respiratory nerve; the other, that of Bischoff and Longet, that it was a nerve of motion, and held to the pneumogastric nerve the relation of an anterior root. Dissatisfied with the latter view especially, which is nevertheless the prevailing one at present, M. Bernard instituted a rigorous inquiry into the subject, and has arrived at some curious results. In his long and interesting memoir, he first shows, from its anatomical relations, that it cannot be regarded as equivalent to the anterior root of a spinal nerve for the following reasons: *First.* It distinctly originates from the posterior lateral groove of the chord, while all the nerves of motion originate from the anterior lateral groove. *Secondly.* The nerves of motion are larger if the organs to which they are distributed be of enlarged size. This, however, is not the case with the spinal-accessory, seeing that its internal branch is not larger in those animals which have a complex stomach than in those whose stomachs are simple. *Thirdly.* When the two roots of the spinal nerves unite, they form an intimate union by decussation of the component filaments, so that it is impossible afterwards to separate them. The filaments of the spinal-accessory, however, never so unite with those of the pneumogastric, but may be traced by dissection, as separate filaments, to their ultimate distribution. They are simply in close contact with the pneumogastric.

M. Bernard, then, by quoting the experiments of Bischoff and Longet, on which their opinion was founded, demonstrates that they are incapable of proving any thing, seeing that the operations to which the animals were exposed were so severe, and the hemorrhage so great, that the animals died before the common trunk of the spinal-accessory was reached and cut across.

The operation performed with this view, by M. Bernard, did not endanger the life of the animal. It consisted in cutting down on the external branch of the spinal-accessory where it becomes disengaged behind the sterno-cleido-mastoid muscle, and following it down to its origin from the common trunk in the *foramen lacerum.* The spinal-accessory was then carefully isolated, and seized with forceps in a longitudinal direction, and traction carefully made on it till it gave way. A long, conical-shaped cord was then drawn out, which, on examination, was found to be the whole nerve pulled up by its very roots. This was done on both sides; and the animal quickly recovered from the operation, and lived for months, or till it was killed. The experiments were performed on cats, rats, rabbits, dogs and a horse.

In all these animals thus operated on, the voice was abolished, but neither the circulation, digestion, nor respiration had experienced any change. All these functions remained as before, during entire months, till the animals were killed. In the details of the experiments it appeared that when the animals were made to walk quickly, the respiration became hurried, and the animals seemed as if short-winded, and had soon to stand still. When in this state, too, the deglutition became difficult, and the animals presented symptoms of some of the food passing into the windpipe. In a state of quiet, however, the animals swallowed well, though slowly, and raising the head at each act of deglutition; and digested their food as if they had undergone no such operation.

When the larynx was exposed during life, the glottis was invariably found open in all its extent, and the *chordæ vocales* relaxed. The laryngeal mucous membrane retained all its sensibility. When the animal, from pain, wished to cry, a column of air was forcibly expelled from its lungs; but no cry was formed, as the glottis remained fully opened, and the chordæ remained relaxed; a kind of blowing sound alone was emitted. This sound was of short continuance, as the expiration was rapidly interrupted by a sudden act of inspiration, which occasionally produced a slight snoring sound.

When the animal was killed, it was found that both spinal-accessory nerves had been completely removed, but that neither stomach nor lungs had undergone any morbid change. If the animal, however, had been irritated, whilst eating, and had exhibited symptoms of choking, the lungs were found variously diseased from the presence of tuberculous-looking masses in different portions, chiefly in the upper lobes. These, on examination, were found to consist essentially of portions of the food which had passed into the windpipe and filled some of the ramifications of the bronchi. When the bronchial tubes were split open, the nature of the food was easily recognized. These portions of food had produced the usual effects of foreign bodies in the bronchi.

The effects of cutting the inferior laryngeal or recurrent nerves were very different from those produced by dividing the spinal-accessory nerves. In several comparative experiments which M. Bernard made, this fact was strikingly manifested. Thus in a cat, when the right recurrent nerve was divided, the voice became hoarse and the respiration oppressed; and when the left nerve was cut, the animal died suddenly of suffocation. In another cat removal of both spinal accessories merely produced abolition of the voice, but the respiration remained free as before. In a third cat, the spinal-accessories were first removed, producing merely loss of voice. Two days after both recurrent nerves were cut, when the animal immediately died of suffocation.

Experiments were made on the dog, cat and horse, to ascertain the effect of section of the external branch of the spinal-accessory. Some irregularity of movements of the anterior extremity, shortness of breath on exertion, apparently from insufficient dilatation of the chest, requiring the animal soon to come to rest, were almost the only changes remarked. The voice remained unaltered, only less continuous than before. Indeed, the expiration was shorter, and the additional muscular efforts required for the dilatation of the chest during exertions seemed not to take place.

From these experiments M. Bernard concludes, that "the spinal-accessory is a nerve of motion, which regulates solely those actions of the larynx and thorax which are connected with the production of voice, and those acts not immediately concerned in the maintenance of simple respiration." He, therefore, objects, but without apparent good grounds, to the placing of this nerve among the respiratory nerves, as was done by Sir Charles Bell, saying it ought rather to be considered as an antagonist of respiration."—*Ed. Med. and Surg. Journ.*, Jan., 1845, *Archives Générales*, April and May, 1844.

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9. *Researches on the Ovum and Corpus Luteum of Man and the lower Animals.* By M. Deschamps.—M. Raciborski states that during the menstrual or rutting season one or more ova are developed and thrown off, whether the ova be impregnated or not, and that the place from which the ovum or ova are thrown off is marked by a *corpus luteum*. M. Deschamps denies this, and states that a corpus luteum is alone formed when impregnation has taken place, and that the periodic deposition of the ova during the menstrual or rutting season is only followed by a kind of false cicatrix, but by no corpus luteum. While M. Raci-

borski, therefore, regards the existence of a corpus luteum as simply marking the menstrual periods, and proves it by a reference to numerous dissections, M. Deschamps regards it as a "certain indication of the fruitful union of the sexes," but refers to no dissections in point. M. Deschamps' description of the true corpus luteum exactly agrees with that which M. Raciborski describes in many species of animals as occurring every menstrual period without access to the male. M. Deschamps describes the ovum at every menstrual period not as being deposited, but as bursting or shriveling, unless impregnation takes place, when he conceives it is expelled by a particular mechanism. M. Raciborski, on the other hand, from a reference to his numerous dissections of the ovaries of birds and the lower animals, shows that the ovum is discharged entire at every menstrual period, and by the same mechanism as when impregnation has taken place; that the deposition of the ovum and the formation of a corpus luteum are quite independent of access to the male; and that in some entire classes of animals the ovum is not fructified till it be expelled from the body of the female, or is just ready to be so.—*Ibid.*, from *Gazette Méd. de Paris*, July 20, 1844.

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10. *Nature and Causes of the Venous Pulse.*—An interesting memoir on this subject was recently read to the French Academy of Medicine by M. Martin Solon. The term venous pulse, he remarked, is generally applied to the pulsations which are observed in the jugular and subclavian veins, in cases of great repletion of the cavities of the heart, or of insufficiency of the tricuspid valves. The latter not closing when the ventricles contract, the blood is expelled, as it were, into a third artery, and venous pulsations ensue, more or less synchronous with the arterial pulsations. M. Martin Solon, having lately observed pulsations in the dorsal veins of the hands in two instances, in which it appeared to him that the pulsations were evidently transmitted through the capillaries, wished to draw the attention of the Academy to this phenomenon. The patients on whom he observed the venous pulsations were both attacked with violent pleuro-pneumonia, had been bled several times, and had taken tartar-emetic in large doses. The veins were prominent, rounded, of a bluish-rose colour, and presented a diastolic and systolic motion, easily appreciable by the eye, and synchronous with the pulse. On a careful examination being made, it was evident that this motion was not communicated by any adjacent vessels. When the fingers were pressed, the pulsation ceased; but when the wrists were pressed, they remained as before. When the brachial artery was pressed, the pulsations of the radial and cubital arteries, and of the dorsal veins of the hands, all disappeared together. In both cases the patients gradually recovered. In one, the venous pulsation appeared on the fifteenth day, and remained seven days, the cardiac impulsion being strong; in the other, the impulsion of the heart was weak, and the symptom was not of so long a duration. M. Martin Solon thought that the abnormal fluidity of the blood in these patients facilitated the passage of the blood through the capillaries, and thus enabled it to retain the impulsion communicated by the heart. The same phenomenon, he stated, had been observed by Dr. Ward, on a woman recently delivered, and attacked with pneumonia, and by Dr. Graves, on a woman labouring under peritonitis. In both instances the patients had been bled largely. This symptom was of great importance in a pathological point of view, as it indicated a state of fluidity of the blood which might render further bleeding unadvisable; he, consequently, thought that the attention of practitioners should be directed to its existence. In a physiological point of view, the fact of the arterial systole and diastole being thus communicated to the veins, was of great importance, as it proved that the entire circulation is under the influence of the heart.

M. Poiseuille stated that researches which he had recently made with reference to this subject, would enable him to throw some light on the question. When the capillary circulation of reptiles and mammiferous animals is examined with the microscope, its flow appears perfectly uniform; but this is not really the case; for although continuous, it is sensibly interrupted, jerked, (*saccadé,*) as is proved by the following experiment:—If a curved tube, containing a solution of subcarbonate of soda, to prevent the coagulation of the blood, is adapted to one of the veins of a thoracic or pelvic limb, so as for the opening to be turned towards its extremity, the blood enters the tube continuously, but not uniformly. The flow is *interrupted-continuous,* (*continu-saccadé,*) which would not be the case if the flow of blood in the capillaries was uniform. This experiment is the same on the living as the one described by M. Blandin on the dead subject, and the result is also the same. Careful examination of the jet of blood in ordinary venesection equally demonstrates the truth of this fact. The amplitude of the jet is never identically the same, even when the openings of the skin and of the vein remain perfectly parallel, and the arm and its muscles are perfectly inactive. That this is the case may be perceived by observing attentively the spot where the blood falls; it will be seen to recede or approximate alternately. It is scarcely necessary to add that the greatest amplitude of the jet coincides with a contraction of the heart, or with an expiration, which increases the impulsive force of the arterial flow, and that the smallest amplitude coincides with the diastole of the heart, or an inspiration. If this normal state is exaggerated, it may give rise to the venous pulse, or uneven flow, which is sometimes observed in bleeding, and which is usually attributed to the communication of arterial shocks. In the mesenteric circulation of young rats and mice, no intermittance is at first visible; but if blood is lost in any quantity, the circulation becomes jerked, (*saccadé,*) both in the capillaries and the veins. The heart losing its energy, a smaller quantity of blood is thrown into the arteries, which, being less dilated, contract with less force, and thus lose their power of converting the intermittent flow into a continued one, as is normally the case. This accounted for the venous pulse having been observed by M. Martin Solon, Dr. Graves, and Dr. Ward, on patients who had lost too much blood. M. Martin Solon attributed the phenomenon to the greater fluidity of the blood. But his own experiments, as well as those of M. Magendie, proved that the more aqueous the blood became, the greater was the difficulty with which it passed through the capillaries, owing to imbibition. He thought it, therefore, more correct to explain the influence which loss of blood evidently had in producing venous pulsation, as he had done.—*Lancet*, Jan., 1845.

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11. *Congenital Deficiency of the Sternum.*—A man, strong and well built, about 5 feet 4 inches in height, 22 years of age, was found, on examination for military service, with a remarkable deficiency of the sternum. In the middle of the chest the motions of the heart could be perceived at a considerable distance. The sternum was entirely wanting, with the exception of a small rudiment in the situation of the ensiform cartilage, so that the heart was only covered in the middle line of the thorax by the common integuments. On applying the hand, the alternate contractions of the auricles and ventricles could be distinctly perceived. The extremities of the ribs on either side, where they ought to have been in contact with the sternum, were found connected in a continuous, apparently cartilaginous line. The young man declared that he had always enjoyed good health, and that he had never suffered from the deficiency pointed out in his business of musician.—*Lond. Med. Gaz.*, Nov., 1844, from *Med. Zeit.*, Nov. 10, 1844.

MATERIA MEDICA AND PHARMACY.

12. *On the Jamaica Dogwood.*—Dr. Hamilton, during a visit to the Antilles, was struck by the powerful narcotic effects on fish produced by the bark of the roots of the *Piscidia erythrina,* or *Jamaica dogwood.* Thinking that this might be of utility as a medicine, he found that the tincture, prepared by macerating the bark of the roots gathered during the period of inflorescence, and before the

appearance of the leaves (the piscidia being one of the few deciduous trees indigenous within the tropics), in four times its weight by measure of *rectified* spirit for twenty-four hours, and filtering, was the only eligible mode of preparation. The following was his experiment, and its result.

"Having been for some time a martyr to the toothache, which had deprived me of my natural rest, I determined to make the first trial of my new medicine upon myself; and accordingly on going to bed, mixed a drachm-measure of the tincture with a rummer of cold water, and drank it off—waiting to observe its effects. Soon after receiving it into the stomach, I experienced a violent sensation of heat, which gradually increased in intensity, awakening in my mind a suspicion that the predictions of my friends, who assured me I should poison myself, were on the eve of fulfilment. However, the deed was done, and I resolved to abide the issue without flinching. The sensation of burning gradually extended itself to the surface, and while I was considering what antidote I ought to employ, a profuse diaphoresis burst out from every pore, and a sleep the most profound I ever experienced arrested me so abruptly, that I remained motionless for the whole night, with the uncorked phial in one hand and the glass out of which I had taken the dose in the other, till after the sun was high above the horizon on the following morning, a space of twelve good hours, when I first returned to consciousness, free from every pain or ache, and without any of those unpleasant sensations which invariably succeed to an overdose of opium.

"I had certainly taken a larger dose than was, perhaps, necessary; but the result was most triumphant. I afterwards employed it with equal success, as a topical application, in a number of cases of carious teeth, introducing it on a dossil of cotton into the diseased cavity; and after a single application, I never heard of a return of pain in that tooth. Wishing to compare its powers with those of opium, I took equal measures of water, containing the animalculæ of the mosquito, and having dropped into one glass as much of the tincture of opium as was necessary to make them fall motionless to the bottom, I added an equal number of drops of the dogwood tincture to the other, with a corresponding effect. I then decanted the supernatant liquor, and washed the mass of animalculæ in each glass with fresh filtered water from the dripstone; after a few ablutions, those which had been stupefied by the tincture of opium recovered, and swam about with their wonted vivacity, while all my efforts to revive those acted upon by the dogwood proved ineffectual."

Dr. Hamilton subjoins certain cautions as absolutely necessary to be kept in view. "First, the bark of the roots should be collected about the period of the full moon, in April, at which time the tree is in full flower, or coming into flower, and the leaves have not yet unfolded. Next, that the best rectified spirit alone should be used in making the tincture—the active principle of the bark being only soluble in spirit, and precipitating on the addition of water, with which it makes a milky compound. It is possible that a longer maceration than I employed might be successful in extracting more completely the active principle; but it might be desirable to divide the tincture so obtained, keeping that made during the first twenty-four hours distinct from the second, or making a portion with twenty-four hours' maceration, and another portion with forty-eight hours' or more; and comparing, by some common test, the relative qualities of each. The following is the formula for the tincture I used:

℞. Pulveris crassi Corticis Radicis Piscidiæ Erythrinæ, ℥j;
Spiritus Vini Rectificati, fl℥iv.

Macera simul per horas viginti et quatuor in vasi aperto et cola. Dosis flʒj et infra ex haustu aquæ puræ."—*Med. Chirurg. Rev.*, *Oct.*, 1844, from *Pharmaceutical Journal*, *Aug.* 1, 1844.

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13. *Preparation of perfectly pure Proto-ioduret of Iron.*—It is well known that the proto-ioduret of iron cannot be obtained pure, in a solid state, by the usual mode of procedure. M. Kop, of Rotterdam, has accomplished this by the following process: Take 4 parts of iodine; dissolve it in a large vessel, with 2

parts of distilled water, and then admix quickly 1 part of fine iron-filings. After a few moments, the temperature rises considerably, and vapours of iodine are given off. Sometimes (particularly at a low atmospheric temperature) the heat generated, during the mixture, is insufficient for the development of iodine-vapours: in such cases, the mixture is to be subjected to a gentle heat after the addition of the iron filings. The composition is at first liquid, but soon becomes solid. In the proto-ioduret of iron, prepared according to the above method, a very small quantity of pure iron is contained, which, however, can easily be separated by filtration. A clear, colourless, solution is then obtained, without any admixture of deuto-ioduret, and without free iodine. This preparation may be also employed (with the necessary additions) in the form of pills.—*Med. Times, from Schmidt's Jahrbücher.*

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14. *New Preparation of Cinchona Bark.*—M. Donovan, of Dublin, has collected a considerable amount of evidence from numerous medical authors, tending to prove that the alkaloids of the barks, quinine, and cinchona, &c., are not the only constituents which give those barks their medicinal properties, but that their anti-periodic efficacy depends, in part, upon other ingredients, and much upon the combination in which the alkaloids are found in the natural state of the bark. The sulphate of quinine is, at present, the form most commonly employed, but many authorities are adduced by Mr. Donovan, to show that it cannot in all cases be depended on.

Under the impression that these preliminary points are proved, Mr. Donovan proceeds to relate his experiments, made with the view to obtain an agreeable preparation, containing all the virtues of the bark in a small bulk. "Hitherto," he says, "there has been no way of exhibiting bark in its full powers, except in the state of powder, which, to most persons, is so disgusting a dose that it is rarely prescribed." The following is the preparation which he conceives accomplishes the purpose:—

Let eight ounces of yellow bark, in coarse powder, be digested with a pint of proof-spirit for a week, in a close vessel, with frequent agitation. The tincture is to be fully extracted by the screw-press; the residuum is to be digested with another pint of proof-spirit for a week, and the tincture again expressed. The residuum is now to be boiled for half an hour with a pint of water, and the decoction strongly pressed out. The boiling of the residuum a second and a third time with a new pint of water is to be performed in the same manner; and then the three decoctions, mixed, are to be evaporated by heat to eight ounces. It will be much the better if this be done in a vacuum. The tinctures, mixed, are to be distilled or evaporated until eight ounces remain; and these, still boiling hot, are to be added to the evaporated decoction. A pint of liquid will thus be produced, the chief ingredient of which is dikinate of quinina.

To this liquid add 315.31 grains of dinoxalate of quinina, and boil for a few moments; then add 21 troy ounces of refined sugar, and four ounces of best gum arabic, both in powder, and previously mixed. The whole is to be kept stirring until the solution is effected; and if the resulting syrup, when cold, does not amount to 32 ounces by measure, water is to be added to make up that amount. When cold, filter through flannel.

In each ounce of this syrup there will be 16 grains of anhydrous dikinate of quinina. This syrup is twenty-five times stronger than the decoction of bark.

It remains to offer a few suggestions relative to the pharmaceutical employment of this syrup. In general it may be used in any mixture of compatible liquids, when the powers of bark are required, and when the other liquids are already sufficiently voluminous, and would be altogether too bulky if decoction of bark were employed. Thus in the simultaneous exhibition of decoctions of bark and sarsaparilla, in equal quantities, the smallest efficient dose of the mixture is six ounces three times a day. By altering the formula to fifteen and a half ounces of decoction of sarsaparilla, and five and a half drachms of syrup of bark, the same powers are exhibited in half the foregoing bulk.

The following contains all its energy in a state of perfect development and activity, and is a pleasant carminative tonic:—

Cinnamon water, six ounces and a half; syrup of bark, half an ounce; compound tincture of bark, an ounce. An ounce measure of this mixture is equivalen to thirty-six grains of bark in substance.

When bark and iron are indicated, the following is the formula in which the least chemical action takes place between the tannin and the iron, as no discoloration appears for several days:—

Precipitated carbonate of iron, syrup of bark, of each an ounce. Mix. Dose, the size of a small nutmeg.

The strength of this syrup is such, that one drachm is a full dose, either by itself or in water. Aromatics, such as anise or fennel, are said perfectly to mask the bitterness of preparations of quinina. M. Pierquin says, that thirty-two grains of carbonate of magnesia conceal the taste of six grains of sulphate of quinina, without interfering in its virtues.

To conclude: this preparation of bark seems deserving of the attentive consideration of physicians, as it contains all that is valuable in that medicine, in a state of perfect preservation and full energy. It presents the active ingredients exactly in their natural state, which good judges have declared to be in many forms of disease absolutely necessary. It contains nothing but what is an unaltered proximate principle of bark. The form is commodious, not liable to spoiling, is less disagreeable than any other, and may be rendered even agreeable.—*Pharmaceutical Journal.*

MEDICAL PATHOLOGY AND THERAPEUTICS, AND PRACTICAL MEDICINE.

15. *Nitrate of Potassa and Benzoic acid in nocturnal incontinence of Urine.* By J. Delcour, M. D., of Verviers. (*Journal de Méd. de Bruxelles.*)—To Dr. Young, of Chester, we are indebted for our knowledge of the efficacy of nitre in incontinence of urine, (See *American Journ. Med. Sci.*, April 1843, p. 371); and Dr. Delcour has been equally successful with this remedy. In two cases where the nitre and strychnia failed, Dr. D. was led to try the Benzoic acid, from its known action on the mucous membranes, and with very successful results. Thirteen cases are recorded by Dr. Delcour, the ages of which were, 1 of 12½ years, 3 of 11 years, 1 of 10½ years, 1 of 9½ years, 1 of 7 years, 1 of 6½ years, 1 of 6 years, 3 of 5 years, and 1 of 4 years. The disease had lasted in these cases, as far as could be ascertained, from 6 years to 1 week. Ten of these cases were cured by the nitrate of potassa alone. In eight of these the medicine was given from three weeks to three months; in the two others the cure was immediate. In these ten cases the eneurisis occurred sometimes every day, sometimes three or four times a week. The medicine was given in the dose of ten grains three times a day.

In the three remaining cases other means were required. *One* of these was a child 11 years of age, who, after taking the nitre for five weeks without effect, was given strychnia for three weeks; the nitre was then recommenced, and in two weeks a cure was effected. The second case, a child 10½ years of age, proved refractory both to the nitre and strychnine. The benzoic acid was then prescribed, in pills, in the dose of six grains, twice a day. A cure was attained in three weeks. Lastly, in the *third* case, a child 9½ years old, both nitre and strychnine failed; and a cure was effected in three weeks by benzoic acid, in the dose of 12 grains, daily. The quantity of urine passed in these two last cases was considerable.

16. *Employment and action of Digitalis in certain Diseases of the Heart.*—The first number of the *Northern Journal of Medicine*, contains an interesting paper on this subject by Prof. Henderson, of Edinburgh. The professor conceives that

the characteristic effect of digitalis on the frequency of the heart's action, though eminently serviceable in some diseases of the heart, was calculated to be injurious in cases of patency of the aortic valves. "Patency of the aortic opening," he observes, "at that period when the ventricles are being filled, necessarily admits of regurgitation from the aorta, the effects of which are an overloading of the left ventricle, and gradually an enlargement of it—an enlargement so great ultimately, if the patient survive long, as to exceed, often to a great extent, that which occurs under any other circumstances.*** Such being the tendency and issue of that overloaded condition of the organ which results from regurgitation from the aorta, it will be granted that whatever increases the amount of the regurgitation must accelerate the progress of the enlargement. That the less frequently the heart beats, the greater will be the opportunity for this regurgitation, is sufficiently obvious; and hence it is that the prolonged employment of digitalis cannot but be injurious when the aortic valves are not competent to their office."

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17. *Undefined suppuration in the substance of the Brain.* (*Dublin Med. Press*, Jan 8, 1845.)—The following very interesting case was communicated to the Surgical Society of Ireland, (Dec. 21, 1844,) by Dr. Benson. A woman upwards of 60 years of age, healthy through life; always in comfortable circumstances, regular and temperate in her habits; rather thin in her person; and not high coloured; had for some months felt occasionally that her stomach was out of order, and her bowels costive. Latterly, frequently was affected with chilliness, which was always removed by a cup of hot tea. This chill did not amount to a regular rigor.

On the morning of the 8th of Nov., she was found in bed with a stupid heavy look, and quite paralytic of the left side, the mouth being a little drawn to the right. Her speech was thick, but she was conscious, and knew the persons about her. She complained of headache, but could not tell when that first seized her, nor could she give any account of the time or mode in which she was attacked. She had never complained of headache before.

She was taken to the city of Dublin Hospital, and when seen by Dr. Benson the next day, her condition was as follows:—decubitus dorsal, eyes strongly turned to the right side; when her attention was roused, she could bring her eyes to the median line, but could not turn them to the left. The eyes looked nearly natural; the left, however, though nearest the light, had its pupil a little more dilated than the right, and its motions were more sluggish. She answered questions correctly. Her speech was not much impaired. The countenance was neither flushed nor very pale; the head was not too hot. The mouth was drawn a little to the right side, and still more so when she attempted to blow or laugh. The tongue, when she protruded it, was turned very much to the left, and the median line of the organ was strongly defined—the right half having a contracted appearance, somewhat corrugated, and firmer to the touch than the other side, which was soft and flabby; both sides were clean, and equally so. Her pulse was 60, soft, and of the same character on both sides. The left arm and leg were quite paralytic. She had no power whatever over their muscles, but the sensibility was unimpaired, and the temperature was rather higher than that of the sound side.

On pinching, or touching her foot, or any part of the left side, she seemed to feel as accurately, and rather more acutely than with the right side, and she could hardly be persuaded that she had lost the power over the muscles of the limbs. She always fancied she moved them when desired to do so. The respiration was natural. She was very unwilling to be moved in bed, as it seemed to hurt her. The head was shaved, the nucha cupped, then blisters applied, calomel and James's powder fully and fairly tried, &c. The bowels acted pretty well all through, and she generally gave notice, but sometimes the motions passed involuntarily. She had at first command over the bladder, but after a few days the water began to flow involuntarily from her; and on feeling the hypogastric region, it was found that the bladder was enormously distended.

The catheter was of course used, a large quantity of fluid removed, and during the rest of the treatment, the instrument was frequently applied, as she could only partially empty the bladder at one time, and only imperfectly retain the urine at another. Her appetite remained good for the first fortnight, and until a few days before her death, she invariably said, at every visit, she was better. But it was too plain that no improvement took place in any of her symptoms, and after a fortnight she was evidently losing ground. Her strength and appetite began to fail, bedsores formed on the paralytic side of the sacrum, and though the water-bed was used, and much care bestowed on her, she sunk, under the combined effects of the cerebral disease and the bedsores, on the 4th of December, just twenty-six days after admission.

Next morning the brain was examined. On taking off the calvarium there appeared to be something more than the usual quantity of blood in the veins of the dura mater. This membrane was less tense over the right hemisphere than over the left. It suggested the anticipation of a softened state of the brain on that side, but on raising it the substance of the brain looked and felt quite healthy. A small tumour, about the size of a French bean, lay attached to the under surface of the dura mater on the *left* side, close to the longitudinal sinus. It was less vascular and more firm than the glandulæ Pacchioni usually are, and was of a soft, homogeneous structure throughout. It was not very unlike a little bit of boiled sweetbread. It did not appear to alter the brain on which it lay in the smallest degree. On slicing the brain horizontally, piece after piece, nothing abnormal was observed until the incisions came nearly on a level with the corpus callosum, when the roof of the lateral ventricles was cut through, and a considerable quantity of clear serum flowed out. Both ventricles seemed equally full, and the foramen commune anterius was very large. The eminences in the left ventricle were quite healthy, but in the right the corpus striatum was soft, flattened, diminished in bulk, and so easily broken that the appearance of an ulcer on its surface was occasioned by the shaking of the brain in the act of opening the cranium. On cutting deeply into this a collection of pus was detected, the centre of which was pure pus, of a thick creamy consistence, not larger than a pea, but the boundaries of this were very undefined, being mixed with cerebral substance, and gradually passing into the more healthy brain, the entire size of the diseased part not being larger than a pigeon's egg. No morbid appearance whatsoever could be seen in any other part of the cerebrum, cerebellum, or medulla oblongata. Under the microscope, pus-globules, exudation-cells, and some branched filaments, were noticed by Dr. Hill; and the existence of true pus was also ascertained by Mr. Orr.

"This case," Dr. Benson remarks, "presents a *few* points of interest to which I would briefly solicit attention. In all the cases that I recollect to have met with or heard of, in which so much suppuration was found after death, the symptoms previous to paralytic seizure were much more marked than in this. Headache, delirium, convulsions, rigors, or some sign of cerebral inflammation or irritation, preceded the more open invasion of the disease. Here, with the exception of a chilliness that was hardly noticed by her medical master, there was no warning of disease. She went to bed in health, and awoke palsied. In the palsy, too, there was something very peculiar—it was so strictly confined to the power over the muscles, leaving the sensation perfectly unimpaired.

"In a case given by Abercrombie, (the only one of abscess in the corpus striatum which his valuable work on Diseases of the Brain contains,) a gentleman went to bed in good health, but awoke with numbness and insensibility of the left side, without any remarkable diminution of motion. He got better very soon, but in some months after was seized with coma and loss of swallowing. After death, an abscess, the size of a bean, was found in the left corpus striatum, and one, the size of a small pea, in the right.

"This case resembled mine in having an abscess in the corpus striatum, but the loss of *sensation* was the marked symptom; and although there was an abscess on each side, it was curious that only one side of the body was affected.

"I wonder why sensation was affected. I can better account for the loss of voluntary motion, as the continued fibres of the motor column of the medulla oblongata may be traced into the corpus striatum, but none of the sensitive column. Some have suggested that the upper, the gray portion of this mass, may be connected with sensation, the deeper with motion; but Abercrombie says both his abscesses were deep in the striated body. And if sensation were much connected with the gray portion, there ought to have been marked alteration of feeling in my case, as the gray part was in a state of unequivocal ramollissement.

"It seems strange that a disease, which must have been slow in its progress, and very gradual in its advances, should so suddenly present the marked symptoms which this did. No doubt a somewhat similar result is often observed. The system bears up against the disorder to a certain point, and then abruptly gives way—we see this in disease everywhere—the last pound breaks the camel's back. But this woman seemed to be singularly free from any warnings of approaching mischief.

"The suddenness of her seizure led me to anticipate a different post-mortem, and as I had not heard a word of any previous indisposition, nor of those slight chills which were altogether overlooked until sought out after her death, I was the more excusable. My recorded diagnosis was 'disease in the corpus striatum and optic thalamus of the right side, probably effused blood.' I was right in fixing on the striated body; and as it is generally thought that pressure on it affects the lower extremity, while pressure on the optic thalamus affects the upper, I supposed it would be found that both these masses were implicated. It is plain, however, from this case, that the rule just quoted from Serres, and adopted by so many, and indeed once or twice verified by myself, is not to be relied on. The upper extremity may be paralyzed without any pressure on the thalami. But it may be said that the right thalamus suffered pressure from the abscess in the corpus striatum. I would answer, certainly not; the whole bulk of this part seemed lessened, and the whole right hemisphere seemed less completely to fill the dura mater. Did the fluid in the ventricles press on the right thalamus? Not more than on the left. Many other questions will occur in relation to the interesting topics of sensation and motion as connected with different portions of the brain, different structures there, and different states of the organs, but the subject is too large to enter on just now."

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18. *On the Origin of the Diseases said to be produced by Marsh Miasmata.*—(*Dublin Med. Press*, Nov. 27, 1844.)—A very interesting communication on this subject was made to the Surgical Society of Ireland, on the 9th November last, by Sir **James Murray**. The following is an *outline* of his researches.

"During many years," observed Sir James, "I attended the sick of an unhealthy district in the south and west of Belfast. This was the valley of the Black-Staff river which flows through swampy suburbs, and receives in its course several sewers from neighbouring streets, from a house of correction, a lunatic asylum, from a great number of cotton factories, a distillery, and other extensive sources of animal and vegetable deposits and impurities.

"Pursuant to the fatal polity so long endured, these floating collections are detained and spread over a large surface of extended *cess-pool* to the windward of Belfast. This putrescent reservoir detains the deposits of the house-drains in an immense basin or dam, which is used to turn a wretched mill. The pond is in a constant state of fermentation from the floods of refuse pent up within it, and from the accession, at every tide, of an intermixture of brackish water from the oozy Lagan, the principal river of that port.

"The substratum of this marshy district is blue clay, covered with a layer of sea shells, and a thin soil of red clay and sandy earth. The elevation of the town is only a few feet above high water mark. The land along the Black Staff is so engorged with the pent-up floods of this putrid river, that the soil of the adjoining fields and ditches is at all times emitting streams of gases. The anatomical preparations and mathematical instruments in the Royal Institution are always spoiled by excessive damps.

"To add to the offensive nuisance of this great cess-pool, its clay margins are dug up in summer for bricks. Turning up this clay, with the putrid deposits from a hundred drains, excites clouds of marsh emanations, sufficient to generate miasms enough to spread illness over a whole province, were putrid miasms the cause of pestilence.

"Notwithstanding the unremitting emission of fœtid gases and emanations from that effervescing fen, they did not *always* engender sickness, although the exhalation was *constant*, and although nine months of the year the offensive miasms are wafted into the apartments of Belfast by a southwest wind. But it soon became apparent that, if these putrid vapours were not themselves the instruments of disease, they conveyed the morbific agent; if not the plague, these filthy clouds of miasmata carried the pest, and applied it in a potent form to the unfortunate families of cotton spinners and others, who reside along this noisome morass.

"I also found that the periods or effects of the unhealthy influence conducted by those vapours, varied with the state of the atmosphere, but not with any variation in its constituents; such as is understood by the term good or bad air. I noticed that during some weeks, when nocturnal lightnings flashed in the horizon, almost all the poor applicants for advice were affected by one uniform train of symptoms, such as *diarrhœa;* then an interval of health occurred in the district for a time. After this, during the appearance of meteors in the air, a general attack of *catarrhal diseases* of parallel character next invaded the people, and once more a period of comparative healthiness ensued. In some weeks an attack of *feverish excitation of an inflammatory nature* assailed the poor, when the air was very strongly charged with positive electricity.

"After another space of time, general *influenza* set in, during an east wind and variable cloudy atmosphere. Thus diseases appeared and disappeared in gales, and were succeeded by new disorders of a different type. After long experience and many experiments, it was evident, that in cloudy and stormy weather, when positive or negative clouds hovered near the earth, one train of malady commenced and continued whilst that electric condition of atmosphere remained. Again, after an interval, when meteoric signs, such as aurora borealis, prevailed, some other disease ensued during the period of that particular electro-galvanic change in the atmosphere. Such atmospheric alterations of electricity (but without reference to their epidemic agency), have been well described by Arago, Sausure, Thompson and many others, in the mutations of stormy, serene, dry, or rainy and unsteady weather. The electric states which I noticed were sometimes positive and sometimes negative, that of the effervescing earth being occasionally in excess at night, but at all other times that of the atmosphere preponderating.

"During the above years, so many different atmospheric phenomena occurred, and so many repetitions of lightning took place, that I could not fail to associate corresponding attacks of diseases with the electric influences which so manifestly prevailed at the same time.

"In the summer and autumn of all these years, various repetitions of electro-galvanic excitations in the air and soils of this marshy district were accompanied by as many fits of what might be termed local epidemics.

"Upon being satisfied by many observations, that electro-galvanic *disturbance*, or *want of equilibrium*, was, at least, a principal exciting cause of these periodical or symmetrical diseases, I watched their origin and progress narrowly, made many experiments upon the waters, soils and air of that damp locality, and arrived at the conclusions which were afterwards confirmed by more extended researches in Italy. I consider that when human beings recline upon moist ground, their natural, latent, or neutral electricity is disturbed by the extensive surface of the body exposed to *telluric* influence. In the locality described, extensive evaporation and energetic chemical action during the day, charged the atmosphere of the place with positive galvanic fluid. This surcharge passed through the moist conducting bodies of the people into the earth, or attracted their negative, and repelled their positive electricity. Again, when, during the nocturnal diminution of the electric fluid of the air, the effervescing earth transmitted its excess upwards through the persons so exposed, the neutral fluid in their bodies was disturbed, or the positive fluid attracted to one side of the bodies, and the negative fluid repelled to the other side, and thus a process of attraction or repulsion exerted untoward influence on the bodies, and in particular upon the great sympathetic system. From these outlines and many other inferences I concluded, that the insalubrity called *malaria* is neither directly from water nor land, nor mist, nor vapour alone; but that there is something else in action which may have a certain degree of relation to all these things, and therefore each of them has occasionally got the blame of the whole

"Only a short summary of the volume of manuscript notes now on your table can be given at one meeting. The reasons and experiments which led me to the following conclusions are so numerous that they will require a separate publication to lay all the explanations before you. The results of my trials and observations led me to abandon the ordinary doctrines of marsh *emanations*, and to attribute to *emanations* of a very different kind the exciting causes of what are called malarious diseases. Without time to read the notes of evidence, the *summing up* is here condensed, and of course must be very imperfectly understood:—

"1st. I consider that what is called '*malaria*' is not bad air at all, as the name implies.

"2d. That marsh miasms, gases, effluvia of vegeto-animal matters, or putrid emanations, are not (as commonly supposed) the exciting causes of agues or other diseases called malarious.

"3d. That in denying the usual doctrine of *marsh miasmata*, I do not deny that general '*malarious*' ailments proceed from terrestrial, paludial or atmospheric emanations, of active, dangerous and subtile qualities.

"4th. But I consider these noxious emanations are *electro-galvanic currents and accumulations*, sometimes positive, sometimes negative, causing want of electrical equilibrium in human bodies.

"5th. That these electric agencies are untowardly excited or set free from soils of fens or marshes, by the known effects of evaporation, chemical action and infiltration of saline, acidulous or alkaline waters among minerals, ores, metals and dissimilar strata of soils and subsoils, and also in wet lands, or during rainy seasons after long-continued absorption by the earth, of solar heat.

"6th. That as it is notorious that there are more insalubrious, dry, and high places in the Campagna, affected with malarious diseases, than in wet and low situations, I consider that in such elevated and arid spots, long noted for insalubrity, there is emitted from the earth's surface an untoward emanation of electro-galvanism, set free by causes operating within the earth of that locality, either by the juxtaposition of strata of dissimilar materials, acting electrically upon each other, or by the infiltration of subterranean streams or mineral waters, by internal heat, and consequent liberation of steam electricity, or by some other agents operating on materials contained in the ground, analogous to the manner in which we operate upon artificial materials in a galvanic apparatus.

"7th. That in some of the thousand ways in which electro-galvanism is produced in the earth or air, its undue influence (under certain circumstances), disturbs the natural electricity of human beings, particularly when recumbent in contact with the ground.

"8th. That this disturbance either in the relative quantity of electricity itself, or in the due proportion of the positive or negative (fluids) alters the condition and functions of the human nerves, and probably the relative state of the particles, and the polar relations of the atoms or corpuscular molecules, and at all events is capable of exciting or depressing the vital functions, and of acting chemically on the circulating animal fluids.

"9th. That these untoward galvanic agencies account more clearly for the specific cause, specific symptoms, and specific cures of some classes of complaints, such as intermittents, than the hitherto assumed action of marsh miasmata which are so various in their nature. In regions in which there are no fens or marshes, such as the Island of Ascension, &c., the diseases incident to strangers are the same as where morasses are extensive. In both circumstances the disorders occur at particular seasons, are confined to particular situations, and require particular and identical treatment.

"10th. That the doctrine of marsh miasms is untenable, because malarious diseases attributed to them are common where there are no marshes, and because domestic animals are in general perfectly healthy, whilst human beings fall by thousands, which surely would not be the case were noxious miasms inhaled into the lungs during respiration.

"11th. The immunity of lower animals seems to arise from the comparative density of their integuments, rendering them less liable than men to the influence of electric accumulations, galvanic currents, or the disturbance of the natural (fluid) in them, by induction. Their hairs or wool being wet at night, serve as pointed conductors, which diffuse or dissipate opposite electrical currents into the earth or air, and prevent their effects on the small brain and nerves of domestic animals.

"12th. That the general immunity of blacks (even those who have long lived in our climate) from malarious diseases, appears to prove that inspiration of malarious air by the lungs, is not noxious, and that the texture, oily secretions, and non-conducting varnish of their daily anointing and painting, render their skins less susceptible or more repulsive of electric agencies than the integuments of whites. The black colour, as it absorbs and parts with heat sooner than white, may also make a difference in the electric conducting power. Even a black silk thread, ribbon, or stocking, presents very different electrical phenomena from those of white ones.

"13th. That this doctrine of the electrical origin of malarious diseases enables us to approach much more nearly to salutary means of prevention than the old theory of inhalation of miasms, wafted in the air, can lead us to apply.

"14th. That in order to enable colonies to be planted upon the Campagna and other insalubrious or desolate regions, I proposed to drain some suitable sites thoroughly. To place a horizontal zinc or copper rod or tube in each drain; to connect these cross wires or tubes with two or more upright conducting or lightning rods; to carry away excess of electricity outside the habitation, and not to permit its passage up or down through the house or tenement.

"15th. That many trials have convinced me, that houses, when built upon such insulated platforms, floored with non-conducting compost of asphalt or bitumen, and protected above and below from electric currents by copper tubes or wires, are comparatively healthy in all situations. These insulated chambers prevent the natural electricity of the bodies of men from being untowardly augmented, diminished, or irregularly distributed through them by the excited electricity, either of the earth or of the air, as I have many times witnessed.

"16th. That as many failures have occurred to common protecting rods for want of moisture, in the ground, in dry seasons and arid elevations, I have found hollow pipes, such as our copper gas-tubes, to present several advantages as lightning rods. By terminating below in the horizontal pipes containing water, and by being always wet inside, by the rain contained in them, their efficacy is secured.*

"17th. That having secured a perfectly drained area or platform for a house or houses, I lay over the arches of the drains a solid floor of Roman cement, and brick or stone work, and when the tenement is erected, and this platform is perfectly dry, I make it hot by a fire laid upon it; whilst still hot, I spread over it a melted layer, about two inches thick, of asphalt and pitch, mixed with fine dried and sifted powder of Spanish clay; this makes a floor which does not crack, and which is almost impervious to moisture or to passes of electric currents either from the air above or from the earth below.

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* In trials on high rocks and dry mountains, on my experimental protecting pipes small funnels were fixed to collect rain, the lips of the funnels were furnished with points, part of the horizontal pipes in the ground were bent *down* like an inverted syphon to contain water, where none was naturally to be found. The overflow from these tubes always kept some parts of the contiguous earth or subsoil wet or humid, so as to be a good conductor at a sufficient depth.

"18th. That in building the walls in the first instance, a layer of sheet lead is laid in pitch and tar-compost on a level with the intended floors, with which layer the insulating compost, above mentioned, is made to unite, when making the non-conducting floor after the building is finished.

"19th. It is too tedious to detail at one meeting, but I have, in experiment, devised a ready insulating medium for existing walls and buildings.

"20th. This principle of insulating the areas or ground upon which buildings are erected, is intended for habitations, hospitals, barracks, and all public or private edifices in malarious localities, and particularly in those places where insalubrity is prevalent and dangerous. In such abandoned or desolate situations the inmates may, in a great degree, be preserved from the direct action or disturbance of electric passes, up or down, through the apartments or places of rest.

"21st. That this precautionary insulating measure is also well adapted to diminish the damp prevailing in many basement stories of Italian houses, in rendering the air of the apartments dry, and therefore non-conducting, and is calculated to diminish the danger of moisture, and many of the other evils commonly associated with the old or current theory of marsh miasms."

N. B. The usual time of the meeting being nearly expired, the following paragraphs were omitted.

"22d. That for malarious districts, in wet fens or low places, a layer of dry lime, fresh from the kilns, has produced very favourable galvanic changes, abated the intense excess of positive electricity of these places for the time, put a speedy end to several chemical changes going on in the waters and soils, and tended very much to ameliorate the atmospheric condition of the insalubrious districts, so far as electro-galvanic currents and accumulations were concerned. Dry lime is a non-conductor, and has been useful in drying damp rooms, and thereby diminishing their power of carrying the electric fluid to or from the inhabitants.

"It had long since been proposed by Dr. Priestley to electrify a great number of patients at once, by placing them in a chamber raised upon glass feet. Mr. Ellis recommended, in 1831, that persons seized with cholera should receive their medical treatment on beds placed upon glass bottles, and be supplied with their remedies in glass vessels. All these ingenious suggestions were proposed for the use of persons *already diseased*, but my desire is to *prevent* persons from being epidemically diseased at all, as far as possible. These able gentlemen suggested means of *cure;* I recommend measures of *prevention;* their propositions were never carried into effect; whereas my insulated houses were tried, and saved the inmates from attacks of disease in places where labourers unprotected fell by dozens in faintings and fevers. Persons insulated by a very bad conductor, such as a floor of cold asphalt, cannot readily communicate electricity to the earth, nor receive electricity from it, if the air be dry. The air can be easily and economically dried by the means proposed in my treatise on 'Heat and Humidity,' 1828—viz., by placing baskets of quick-lime under beds and tables, and by spreading it in deep layers on shelves in the apartments.

"The following may serve to convey an outline of my reasons for insulating public and private buildings. A cloud strongly charged with positive electricity, over the individual, will attract his negative electricity upwards, and repel his positive electricity towards the earth. After the cloud is discharged, passes away, or is neutralized, the two elementary fluids rush towards each other into the centre of the person's body. The opposite currents of the two elements often kill instantly. In milder cases, such electrical disturbance affects the animal fluids, as it affects beer in the cellar, or milk in the dairy.

"I consider that men's bodies between the atmosphere and the earth, represent the chain of a Leyden jar or of an electrical machine, conducting negative electricity from the outside of the jar to the ground, or supplying positive electricity from the earth to the rubber. Were the surface of the floor well insulated, the chain could not readily give or receive the currents which otherwise pass through it. Men in like manner, may be saved in towns, camps, and houses, from being made the vehicles of passes, which are quite capable of deranging the mechanical order, the chemical action, and the physical function of every atom and organ of the human body.

"I have also, in this volume, recommended portable insulated chambers, or sheet-iron cottages, and pitch floors, for sailors or others, resting for wood or water upon noxious shores or swamps.

"There are many other details connected with the outlines, both of the above theory and practice, but enough has been said to convey their purport until the detailed explanations and evidences are published."*

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19. *On the Treatment of Acute Rheumatism.*—The number of remedies proposed for the treatment of any disease is usually in proportion to its obstinacy; and, accordingly, while innumerable cures have been recommended in acute rheumatism, it is a disease which in many cases baffles our art. When we examine the various authorities for its treatment, we are struck, not only with the multitude of remedies proposed, but with their conflicting character; and we find that, while one practitioner extols *his* prescription as curing almost every case, another pronounces it utterly valueless. The various methods of treatment employed may be summarily comprehended under five heads: 1st, Pure Antiphlogistic Treatment: 2d, Stimulant Sudorific; 3d, Pure Stimulant; 4th, Alterative; 5th, Specific.

1st. *Pure antiphlogistic treatment.*—The principal remedial means comprehended under this head are blood-letting and free purgation. Sydenham was a decided advocate for blood-letting, recommending ten ounces to be abstracted every second day for four or five times. Stoll, Sir John Pringle, and Cullen, were also advocates for its employment. Dr. Fowler has some interesting observations on the effects of blood-letting in this disease. He employed it in 41 out of 87 cases, with the following results: cured, 3; much relieved, 7; moderately relieved, 7; little relieved, 20; not benefited, 4.

We find that Dr. Fordyce was forced by experience to abandon blood-letting; and Heberden informs us that copious blood-lettings are unsuitable to the majority of persons in rheumatism. The consequence has been that blood-letting fell into comparative desuetude, until its employment was revived in modern times. Bouillaud is the most decided and uncompromising advocate for its employment that has ever appeared, and has pushed it with a vigour which, *even in Edinburgh*, is startling. "The true specific," he observes, "of acute articular rheumatism is blood-letting; its *quinine*, if the expression is allowable, is the antiphlogistic system, and bleeding is the prince of antiphlogistics."

The patient is on admission bled to sixteen, or from that to twenty-four ounces. Next day bled twice to sixteen ounces, and to amuse him between the bleedings, cupping or leeching is practised, from twelve to twenty ounces being thus abstracted locally. On the third day there is but one bleeding and one cupping. On the fourth, unless cured, bled again. On the fifth, if the disease has not ceased, another blood-letting. The medium quantity of blood taken from vigorous subjects in a violent case is from four to five pounds. In some cases the abstraction of six, seven, or eight pounds may be demanded.†

Dr. Craigie, a decided advocate for blood-letting, states, "that in order to be beneficial, it ought to be performed early in the disease, and carried to a considerable extent. * * * * It should be carried at first to 20, or 25, or 30 ounces at once, if possible, and within twenty-four hours to as much more."[*]

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* The volume of manuscript notes above mentioned has been since put to press, and was translated into Italian, last summer, by Dr. Girolami, of Civata Veccia, near Rome.

† See Nouvelles Recherches sur le Rheumatisme, &c., par J. Bouillaud, p. 133.

On the treatment of rheumatism by blood-letting, Dr. Alison remarks, "that large and repeated blood-lettings in the beginning of rheumatism increase the risk of metastasis to the heart."[†] Dr. Hope, in recording the experience of 200 cases, in reference to the "bleeding plan," writes as follows:[‡] "From ten to twenty years ago, this and the diaphoretic plan were in full vogue, especially in Scotland; and I saw them carried to their maximum in the Edinburgh Infirmary during a residence of two years in that institution. Now, many cases, I admit, were promptly and effectually cured—even annihilated at once—by the antiphlogistic plan; but in many others, active bleeding was carried to the very last ounce that could be drawn, yet the enemy clung to the joints with a chronic grasp, and proceeded triumphant in his crippling career. Add the pale, emaciated frame, and the slow convalescence, sometimes of two or three months' duration, and too often, I fear, the permanently shattered constitution," &c.

The following is the result of the experience of M. Monneret on the effect of blood-letting in 19 cases of acute rheumatism. In all these cases the blood-letting was practised with decision,—at least three general blood-lettings being prescribed during the first four days, with two cuppings from the inflamed joints and the præcordial region. The activity of the treatment stopped a little short of that recommended by Bouillaud.

When the blood-letting was to prove beneficial, the pulse gradually fell, the temperature of the skin diminishing at the same time. In other cases the pulse would fall suddenly, while the temperature of the skin remained above the natural standard; in these, the pulse would again rise, and the pains return with redoubled intensity, either in the joints already affected or in others.

When the pains are not relieved in the first four or five days, we must not expect that the blood-letting will prove a radical cure, and if had recourse to after this, it appears to weaken the patient, and to produce a state of anæmia unfavourable to ultimate cure. In such cases M. Monneret has observed "bruits de souffle" in the large vessels, and sometimes in the heart, abundant sweating, vigilance, fulness and frequency of the pulse. The pains, instead of disappearing, flit from one joint to another, or obstinately locate themselves in the ones first attacked.

These patients become tedious convalescents, often remaining two or three months in hospital.

Nor is the chlorotic state, with its gastralgic and neuralgic pains, the only danger to which such patients are exposed; but it seems to pave the way for other diseases, induced doubtless by individual predisposition. Sloughing over the sacrum, severe and fatal pneumonia, white swelling, chronic enlargement of the joints, have all occurred in patients largely bled.

The following are the conclusions at which M. Monneret arrives:—

1st. That moderate blood-letting may have a beneficial effect in the treatment of acute rheumatism, if practised at the commencement of the disease, especially during the first four days; but that after this period it can only weaken the patient, and retard the curative efforts of nature.

2d. That the cases where blood-letting was most beneficial were those in which it was employed early, and carried to a considerable extent in a short time.

3d. That although the beneficial effects of blood-letting so practised were far from being constant, yet that they appeared more satisfactory than those cases in which smaller blood-lettings were resorted to at intervals throughout the whole course of the disease.

Purgatives hold the place next in importance in the antiphlogistic treatment, and they have been freely used in the treatment of rheumatism. "Almost all practitioners," observes Dr. Johnson, "recommend cathartics in acute rheumatism, on the principle of detracting from the general circulation through the channel of the intestinal canal, thus reducing vascular action."* On the same subject, Dr. Barlow recommends, after the use of the lancet, "to purge freely the stomach and bowels."† So convinced are some practitioners of the efficacy of purgatives, that they attribute the benefit of certain remedies almost entirely to their cathartic properties. Of colchicum, for example, Dr. Elliotson states, that it "generally does no good till it purges, and when once it purges the patient thoroughly, the disease usually gives way."‡ Dr. Craigie also speaks of the "benefit resulting from the use of guaiacum when it produces a loose state of the bowels. I must also observe," he adds, "that I have, in the course of administering tartrate of antimony for the treatment of rheumatic disorders, several times observed, that after it had produced rather profuse catharsis, the articular pains underwent remarkable abatement, with reduction of the pulse to the natural standard; and they finally disappeared. Colchicum also very often purges smartly before it relieves the articular pains."§ It will be seen that free and repeated evacuation of the bowels forms an important part of the plan of Dr. Hope, which we shall allude to more particularly hereafter.

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[*] Craigie, Practice of Physic. vol. ii. p. 564.

[†] Cyc. Prac. Med. Hist. of Med., part xxiv. p. 45.

[‡] Med. Gazette, vol. xix. p. 814.

2d. *The stimulant sudorific treatment.*—One medicine of this class, Dover's powder, is regarded almost as a specific in rheumatism; but whether it merits that character is rather doubtful. In the Edinburgh school it was largely employed, chiefly perhaps owing to the strong recommendations of Professor Gregory, who regarded sweating as the evacuation most to be relied on after blood-letting. On this subject Dr. Hope observes,—"Dr. Gregory, the great advocate of this plan, premised venesection and purging till the pulse was lowered to 100, but 'with these appliances and means to boot,' I have seen patients stewed and parboiled (if you will excuse a culinary trope) for four, six, or eight weeks, and gain—what?—a more attenuated frame, chronic pains, and a confirmed susceptibility of rheumatic attacks on the slightest variations of temperature. This plan is now, I think, almost universally abandoned—by those at least who keep pace with modern science."‖ The guaiacum, a remedy introduced by Dr. Dawson, and still occasionally employed, though usually in chronic rheumatism, seems to owe any efficacy it possesses to its sudorific powers. Dr. Graves is an advocate for its employment in chronic cases where no symptoms of active local inflammation or general fever exist. The formula he prescribes is as follows,—and he regards it as acting by increasing the secretion from the skin, while at the same time it exercises a stimulant action on the nervous and capillary systems:—"Powdered bark, ʒj.; powdered guaiacum, ʒj.; cream of tartar, ℥j.; flowers of sulphur, ℥ss.; powdered ginger, ʒj.:—to be made into an electuary with the common syrup used in hospitals.¶ The dose, a teaspoonful three times a-day. This, however, will be too much for some cases, and too little for others. The object in every case should be to keep up a mild but steady action on the bowels, and to procure a full alvine evacuation at least once a day. If the dose already mentioned does not answer this purpose, it must be increased; if the bowels are too free, it must be diminished."** An electuary nearly similar in composition was employed by Dr. Law; and Dr. Munk states that he succeeded in curing three hundred cases by means of sulphur combined with carbonate of soda in the proportion of two drachms of the latter to an ounce of the former. We have no doubt that, restricted to the class of cases which Dr. Graves has described, sudorifics will be found beneficial; but in the acute variety of the disease, where spontaneous sweating so often occurs, and proves any thing but salutary, this method of treatment does not seem to be indicated. "The sudorific plan of treatment," observes Dr. Scudamore, "not unfrequently disappoints our expectation, so as to aggravate rather than relieve the symptoms. Even when most successful, it is attended with the ill effects of producing much debility, and increasing the sensibility of the surface, so that for a considerable time almost any degree of exposure is hazardous."* And Dr. Barlow, in his very excellent article before quoted, observes: "The cure of rheumatism by profuse perspiration has fallen so much into disuse, that it can be hardly necessary to notice it."

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* Practical Researches on Gout and Rheumatism, by James Johnson, p. 270.

† Cyclop. of Prac. Med., Art. Rheumatism.

‡ Lectures by Cooke, p. 740.

§ Craigie's Practice of Physic, vol. ii. p. 565.

‖ Medical Gazette, vol. xix.

¶ The above formula is similar to that of the empirical remedy for rheumatism, termed the Chelsea Pensioner, the composition of which is as follows:—Guaiac. ʒi.; powdered rhubarb, ʒii.; cream of tartar, ℥i.; flowers of sulphur, ℥ii.; one nutmeg finely powdered;—the whole to be made into an electuary with one pound of clarified honey. Two large spoonfuls to be taken night and morning.

** Clinical Medicine, p. 663.

3d. *Pure stimulant plan.*—The exhibition of bark in the treatment of acute rheumatism was introduced by Morton, but as it was opposed by Cullen, it never obtained the confidence of the profession until after the publication of Dr. Haygarth. The following is his account of his method of prescribing it:—"After the stomach and bowels have been sufficiently cleansed by antimony, I have for many years begun to order the powder of Peruvian bark in doses of gr. v., x. or xv. every two, three or four hours; and if this quantity had a salutary effect, it was gradually increased to gr. xx., xxx. or xl., with sedulous attention never to add more than what perfectly agrees: it has generally been taken in milk, mint water, or the decoction of bark." The results of this method of treatment, even on Dr. Haygarth's own showing, do not appear to have been very encouraging, as we find that he lost twelve cases out of a hundred and seventy; and accordingly we are not surprised that it fell into desuetude. Of late, however, an attempt has been made to revive its employment, more especially among the Parisian practitioners; and we find a letter addressed by M. Briquet to the Academy of Medicine of Paris, stating that large doses of quinine were as successful in the treatment of rheumatism as of ague. The researches of M. Monneret bear upon this point, and we shall accordingly present an abstract of them, as they appear to be at once the most recent and the most accurate. In this valuable contribution, not only the effects produced by the medicine on the disease are recorded, but its influence on the several functions of the body; we shall, however, restrict ourselves to the former. The sulphate of quinine was given to 22 individuals (17 males, 5 females); 13 suffered from recent acute rheumatism, with fever, in several joints; 3 had rheumatism in several joints without fever; 3 rheumatism accompanied with fever in one joint; in 1 the rheumatism was at once articular and muscular; in the remaining 2, muscular and accompanied with neuralgic pains. The quinine was given in solution, with an excess of acid, and therefore in the state of bisulphate. The medicine was in every case persisted in for at least 10 days, sometimes for 14. One patient in 8 days took 29 grammes† of the salt, and after a cessation of some days, during which he had been free from pain, he took, on account of the return of the pain, in all 47 grammes; a second took 57 grammes in 12 days; a third 50 in 11. The smallest dose was 2 grammes, the largest was 6. Of the 22 patients, 7 only were cured; and among these, one was affected with muscular and neuralgic rheumatism; a second had articular rheumatism of 15 days' standing, and was almost free from fever; a third had slight rheumatism with moderate fever; in a fourth the pains were of 8 days' standing, and the other local symptoms slight; so that, in fact, only 3 cases of acute articular rheumatism appeared to yield to the remedy. In 15 other cases, the pains were remarkably alleviated, usually on the second or third day, more rarely on the first. In two-thirds of the cases, the pains ceased so entirely that the cure was regarded as complete, the patient being able to move his limbs without suffering, but they returned again, even although the remedy was persisted in. The sulphate of quinine produced a curious effect on the nervous system, which showed itself in two ways,—either in a state of great excitement resembling that of intoxication, or a state of collapse similar to that of typhus fever; and it was remarked that the effect upon the articular pains seemed to correspond with the intensity of the nervous affection. These experiments seem to be very accurate, and certainly do not give much reason for confidence in the curative power of quinine.

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* Treatise, p. 542.

† The gramme equals in round numbers ¼ drachm or 15.440 grains.

The late Dr. Davis, the professor of Midwifery in the University of London, recommends bleeding followed by an emetic, and in five or six hours an active purge; after which he gives from a scruple to half a drachm of powdered yellow bark every three or four hours. Under this treatment the disease seldom exceeded a week.*

4th. *Calomel and opium plan.*—The efficacy of opium in the treatment of rheumatism has been long known. De Roches cured two cases by its use alone,† and since then it has been recommended by several successive authors. The practice, however, has met with much opposition. Among those who condemn it are found the high names of Sydenham, Cullen, and Armstrong. Dr. Corrigan is an advocate for its employment, and did not find it affect the cerebral functions. The mean quantity which he exhibited was ten to twelve grains, but sometimes double this dose was given. Professor Christison recommends frequent doses of Dover's powder, which may relieve either by its opiate or sudorific properties. Other narcotics have been given, especially the extract of aconite, or that of belladonna. The *calomel and opium* plan, however, was first introduced by Dr. Robert Hamilton of Lyme Regis,‡ who first bled his patient, and then gave calomel and opium at suitable intervals, until the disease ceased, or the specific effects of the medicine were produced. Of all the methods of treatment this is perhaps the one in which the greatest confidence is placed, and more recent improvements have consisted merely in modifications in the method of prescribing it.

5th. *Specific remedies.*—Under this head we class a few agents, regarding the particular effect of which on the constitution we are not sure, and which we cannot therefore arrange under any of the foregoing heads. 1st. *Colchicum* is a remedy which has been largely employed in the treatment of rheumatism, and generally with the most beneficial effects. It is highly recommended by Dr. Barlow, an author of great experience in these affections, and, indeed, in combination with other remedies, is employed by almost every practitioner of acknowledged reputation. It was with not a little surprise, then, that we observed that the author of the article Rheumatism in the "Library of Medicine," states that colchicum has long held and continues to hold an ill-deserved reputation as a remedy for acute rheumatism, and this upon the authority of eleven cases. On the same amount of experience, the same author gives the authority of his name against the use of calomel and opium. We shall give M. Monneret's observations upon this drug, made with the tincture of the bulb of the colchicum. Most of the patients took from 4 to 16 grammes in the 24 hours,—the one in one or two doses, the other in four doses. M. M. always exceeded the usual dose. He never commenced with less than 4 grammes, and he remarked that while the doses could be very rapidly increased, the large ones could not be safely continued long. Some patients took it for 9, 10 or 13 days, but with an interval of 2 or 3 days. 21 patients were treated by this medicine, and, in all these cases, it was continued until M. M. was convinced that it was producing no effect. M. M. does not consider it necessary to state minutely the peculiarities of the cases, "because in not a single one was the use of the tincture of colchicum followed by an evident and durable cure." But when we come to examine further, we find that 8 patients, that is to say, more than a third, recovered while taking it, and that all that our author means to assert is, that it cured them by means of its powerful purgative effect, and not by any latent specific virtue which it might possess. This opinion we have already shown to be held by many British practitioners, who, in order to ensure the purgative effect, exhibit the colchicum in combination with saline aperients. "The two best internal medicines," observes Dr. Elliotson, "are without doubt colchicum and mercury. Colchicum here, as in the case of the gout, generally does no good till it purges, and when it once purges the patient thoroughly, the disease usually gives way. It should be given in the same way as in gout, that is to say, with magnesia, that it may produce its effect as speedily as possible. As soon as it purges it is right to desist; and also as soon as its effect ceases. If you give a dose of hydrocyanic acid with the colchicum, it sits better on the stomach; you may exhibit one, two or three minims."*

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* Lancet, 1841.

† Medical and Surgical Journal, vol. i. p. 154.

‡ Medical Commentaries, 1783.

Dr. Hughes gave a pill of opium and antimony at night, and half a drachm of the colchicum wine, with a drachm of the sulphate of magnesia, three or four times a-day, until copious, liquid, yellow evacuations were produced, when, if the pain was abated, bark and soda were prescribed. Mr. Wigan gives 8 grains of powdered colchicum root every hour, until vomiting, purging, or profuse perspiration occurs. The minimum quantity is 5 doses, the maximum 14, the average 8 or 10.

2. *Nitre.*—This remedy was introduced in 1764 by Dr. Brocklesby. A full account of it was given in the 5th number of the Scottish and North of England Gazette, in which the observations of M. Martin Solon were condensed. His observations were made on 33 patients: of these, 20 were cured from the 3d to the 7th day; 11 from the 9th to the 10th; 2 from the 11th to the 15th. In 27 of these cases the malady ceased gradually after the exhibition of the remedy; in 6, other articulations were attacked. In 9 cases, where bleeding was also employed, the convalescence seemed to be rendered more tedious, and two of these patients had relapses. The usual dose was 30 grammes in the 24 hours, and in ten cases it was carried as high as 60. In 9 cases it produced nausea, vomiting and purging, but this was removed by adding syrup of poppy to the lemonade in which it was usually given. Dr. Brocklesby gave 18 drachms in the 24 hours; Mr. White, 12 drachms. Mr. Horne recommends the following mixture:—R. nitratis potassæ, ʒss.; tart. antimonii, gr. ii.; spt. ætheris nitrici, ʒi.; aquæ fontis, ℥xii.: misce. A wineglassful three times a-day.†

M. Monneret tried nitre in 8 cases, in all of which the rheumatism was recent and intense. One of the patients suffered from meningitis, and another from pneumonia; the dose given was from 8 to 30 grammes. M. Monneret could not observe any benefit result from its employment. He never gave more than 30 drachms. The articular pains, the fever, the state of the pulse, and the urine, were unaffected by its employment, nor did the latter exceed the quantity of fluid swallowed. In all these cases the remedy had to be changed in order to prevent serious results.

3. *Iodine.*—Dr. Cowan gave the hydriodate of potass in 52 cases, in average doses of five grains three times a-day. In no instance was either bleeding or leeching prescribed. The following is his opinion of its powers:

"The action of iodine in rheumatism is, on the whole, satisfactory; in many cases it may be regarded as heroic, while in others not *a priori* distinguishable, almost negative. After examining the experience of different observers, we are inclined to suspect that we have often erred by the smallness of the dose, and think it probable that the quantity should in some cases be increased to the point of tolerance, the rheumatic element, so to speak, varying in amount and intensity in different individuals."

"In the Lancet for Nov. 16, 1839, Mr. Henry Rees says, 'In all cases of acute rheumatism, the diet should be strictly regulated; avoid rigidly beer, wine, spirits and animal food. Milk, beef-tea, butter, eggs, fish, &c., are all pernicious.' His theory is, that the disease depends on an excess of nitrogen. In very urgent cases bleeding and mercury may be necessary; but he regards the hydriodate of potass as certain an antidote to the rheumatic diathesis as mercury is to that of syphilis. Its combination with liquor potassæ acts, he says, like a charm in rheumatic iritis."

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* Letters by Cooke, p. 740.

† Lancet, Dec. 10, 1842.

"In a very obstinate case, characterized by severe pains, relieved by heat, and unaccompanied by much swelling, occurring in the practice of Mr. John Brady of London, the following means proved very successful:—Compound extract of sarsaparilla, six drachms; iodine, half a grain; hydriodate of potash, half a drachm; boiling water, six ounces: mix. A fourth part three times a-day, with one of the subjoined pills. Hydrochlorate of morphia, one grain; disulphate of quinine, nine grains; blue pill, ten grains; rhubarb pill, twelve grains. Divide into twelve pills."

Dr. Graves recommends hydriodate of potass in lumbago.

"I first became acquainted with the remarkable efficacy of this medicine in lumbago and sciatica, under the following circumstances. In the memorably wet month of July, 1839, I was called out of bed at midnight to visit a lady in the country, and the vehicle sent to convey me was a hack, covered car. The cushions were very damp, and I had not proceeded half a mile before I was attacked with lumbago so severe, that I could scarcely walk when I arrived at my patient's residence. Next morning I was better, having perspired much during the night; but still the pain was troublesome, and as the season continued unusually cold and wet, (indeed it scarcely ever stopped raining from the 8th of July, 1839, to the 19th of February, 1840), and as my duties exposed me much to the weather, and prevented me from giving myself the necessary rest, my lumbago continued to increase again, and in about a month, the gluteal and sciatic nerves of the left side became engaged; I noted particularly, that the pain spread very gradually downwards from the lumbar region, so that it took a week or ten days to arrive at the ham, and a still longer time at the ankle. I was then quite lame of the left leg, suffered much from pain in bed, and had become so helpless, that I had to get my servant to draw on my stockings. During all this time my general health was perfect, appetite good, digestion regular, and no deviation of the urine from the natural appearance. I mention this because several of my medical friends advised me to take antibilious aperients, an advice founded on Abernethy's doctrine, that many local affections proceed from stomach derangement. I was at last forced to try something for my relief, and had myself cupped, and tried the warm douche and Dover's powder, but without any good effects. I began now to fear that I should be forced to give up all professional business, and confine myself to the house for many weeks, in order to go through a mercurial course, combined with proper topical applications, when happening to meet Mr. Ferguson of Kildare street, he recommended me to try hydriodate of potash, of which he was good enough to send me a drachm dissolved in a pint of decoction of sarsaparilla. I took a quarter of this daily, and may literally apply here the common phrase, that I felt each dose do me good; in truth, the benefit I derived was perceptible hourly, and was so rapid, that in four days all traces of the lumbago were gone, and my lameness had quite ceased. I did not take more than one bottle, *i. e.*, one drachm of the hydriodate; but the good effect continued after I had ceased taking it, and in less than a week I was perfectly well. Subsequent experience enables me to recommend this medicine strongly in subacute and chronic lumbago and sciatica.*

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* "My friend Dr. Osbrey, in an exceedingly useful paper on the '*Uses of some of the Combinations of Iodine*,' published in the twenty-first volume of the Dublin Medical Journal, makes the following remarks, the importance of which I fully admit: 'The readers of this journal are aware that Dr. Graves has strongly recommended the use of iodide of potassium in lumbago, for which I have found it an excellent remedy. There is one form, however, of rheumatism of the muscles of the back and loins, in which it should be used with caution; it is that which is attended with dyspeptic symptoms, such as flatulency, diarrhœa, and irritability of the stomach; these symptoms, in my opinion, should be first relieved before having recourse to iodine. In sciatica I have also found that remedy useful.'"

"It is right to observe, that the remedy had in my own person to work against various disadvantages, for I neither relaxed from my labours nor refrained from eating and drinking as usual. This is only another example of the many I have met, which prove how injudicious it often is to seek the cure of local inflammations by means of lowering the whole system."*

We shall lastly present our readers with a summary of the method of treatment adopted by several practitioners, and leave them to judge for themselves as to the plans proposed.

Mr. Baynton of Bristol orders all mufflings off his patients, and admits a free circulation of cool air through the chamber by open windows. Absolute quiescence is enjoined, the most rigid abstinence is to be observed, and no medicine is given except gentle laxatives; the shower bath is to be used during convalescence.

"The late Dr. Hope, after six years' experience upon 200 cases, gives decided preference to the following plan:—After one or even two full bleedings in the robust, he gave seven to ten grains of calomel, with one or two of opium at night, a draught with fifteen to twenty minims of colchicum wine, and five grains of Dover's powder in saline mixture, three times a-day. It was seldom necessary to repeat the calomel more than from two to four times, after which he continued the opium at night, with the colchicum draught and a senna laxative every morning. The patient was almost always well in a week, and able to commence his work in seven to ten days after the pains had ceased. Ptyalism was avoided unless the heart was involved.

"In chronic cases he gave five grains of calomel, and one of opium, at night, for five or six times, with the senna and colchicum draught as before. Local depletion with some form of counter-irritation were usually employed.

"Dr. Macleod advises bleeding, abstracting from twelve to thirty ounces during the first week, giving three to five grains of calomel at night, and a senna purge in the morning. Opium to the extent of two grains in the twenty-four hours is often useful, and the guaiacum is recommended as the best after-treatment. In lumbago, Dr. M. thinks well of a brisk calomel purge once or twice a-week as above, and considers half a drachm to two drachms of the compound tincture of guaiacum three times a-day, with a grain of opium at night, the best plan."

"Against rheumatic headache, Dr. Johnson has found no treatment so successful as the following:—Eight grains of Dover's powder and two of calomel at bed-time, on alternate nights, for two or three times, followed by a third part of the following mixture the next morning, to be repeated in two hours, if necessary:—Infusion of rhubarb, three ounces; tartrate of soda, three drachms; powder of rhubarb, half a drachm; tincture of senna, half an ounce; wine of colchicum, a drachm and a half: mix.

"The same observer remarks (Medico-Chirurgical Review, April 1838), that many of the most stubborn cases will yield to a course of blue or Plummer's pill, taken at bed-time, and followed by a warm saline and colchicum draught in the morning. Flannel clothing, and an occasional warm bath, are valuable adjuvants."

"In the acute stage, Dr. Graves principally relies on bleeding, with large doses of tartar emetic and nitre; and in less urgent cases, particularly if complicated with bronchitis, he has derived much benefit from the following mixture:—Almond emulsion, eight ounces; vinegar of colchicum, half an ounce; acetate of morphia, one grain; nitrate of potash, half a drachm: mix. Half an ounce every hour or every two hours."—*Northern Journal of Med.*, May, 1844.

20. *Membranous-like formations passed with alvine evacuations.*—Mr. Iliff, in a paper read before the Physical Society of Guy's Hospital, Dec. 14th, 1844, brought before the notice of the society the consideration of those membranous-like formations which are not unfrequently passed by patients mingled with their alvine

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* Clinical Medicine, p. 864.

evacuations. He regarded the mucous membrane of any part of the intestinal canal from the duodenum to the sigmoid flexure of the colon, as capable of originating them when exposed to adequate causes of irritation. Their exact nature he would not take upon himself to decide, but purposely left that part of his subject for elucidation in the discussion which he hoped to elicit. This peculiar disease of the intestine according to his observations occurred most frequently in women, had always been preceded by dyspeptic symptoms, often of long continuance, and was best combated by undeviating attention to diet, soothing measures, light tonics and slight astringents, as Liq. Potassæ and Balsam Copaiba, and the careful employment of only the mildest aperients. He read the particulars of eight or nine cases which had come under his care, all of which save one, the subject of malignant disease of the os uteri, and another which had passed from his care, had regained and preserved a tolerably good state of health. The paper and cases were illustrated by numerous preparations and drawings. In the course of his observations, Mr. Iliff alluded to the cases of analogous formations by the bronchial membrane, one read by himself in 1822 (Med. Rep., Vol. 18), those read by Mr. North, before the Royal College of Physicians, and recorded in the LONDON MEDICAL GAZETTE in 1838, and those by Dr. Reid in the last volume of the Med. Chir. Trans.—to the special papers on their formation by the mucous membrane of the duodenum by Dr. Powell in 1818 (Trans. of the College of Physicians. Vol. vi.) and by Dr. Todd of Brighton, under the name of Follicular Duodenal Dyspepsia (Cyclopedia of Practical Medicine), and particularly to a case that fell under the observation of Dr. Mann Burrows, in 1814 (Med. Rep. Vol. i.), at whose request Dr. A. Thomson instituted a chemical examination of the substance passed, and found it "consisted chiefly of animal mucus, combined with a small portion of albumen and gelatin."

He concluded by drawing attention to a similar case just published by Dr. Arthur Farre, in the Trans. of the Microscopical Society, who from the examination he has instituted, believes the formation is one of a confervoid type—an oscillatoria in fact—the result of sporules swallowed by the patient in her ordinary drink. An opinion at which Mr. Iliff expressed his surprise, and could not adopt, unless confirmed by further microscopical examinations, and also by chemical inquiry.—*London Med. Gaz.*, Dec. 20, 1844.

21. *The time required for the Transit of Coins and the like through the Intestines, when accidentally swallowed.*—Dr. WM. CAMPBELL has communicated to the *Northern Journ. of Med.* (Aug., 1844,) some interesting cases with a view of elucidating this subject. Dr. C., was sent for to see a child three years old who had swallowed a farthing. To allay the apprehensions of the parents some infusion of senna was administered to the child every third morning to accelerate the expulsion of the coin, which happened on the fifteenth day. No uneasiness was experienced during its detention. In two other cases in which children swallowed a similar coin, it was evacuated on the third day. In two other cases, where the children each swallowed a half sovereign, in both instances the coin was retained for three months. Dr. A. T. Thomson relates two cases; the first, a boy who swallowed a penny piece, which did not make its appearance for six months thereafter, the second, a younger boy who swallowed a similar coin which was voided in two months. In neither instance did the coins exert any injurious effect on the health of the children. Dr. Paris mentions a case in which six penny pieces were swallowed, and they remained six years in the intestines; and Dr. Baillie records a case in which on dissection he found imbedded in a pouch in the stomach, a coin which had been swallowed some considerable time previously.

22. *On the treatment of Typhus, including its Complications, or an estimate of the various Therapeutical means employed for its Cure.* By WM. DAVIDSON, M.D. (*London and Edin. Monthly Journ. Med. Sci.*, Dec. 1844.)—This paper contains

some very judicious and sensible observations, to which we would call, in an especial manner, the attention of our readers.

"It may be laid down as an axiom in our profession," Dr. Davidson remarks, "that all diseases are not alike amenable to treatment, and that in some the influence of art is very immaterial, even when applied with caution and judgment; or if these duties be neglected, injury instead of good may be the result. Although the fatal and uncontrollable fatality of small-pox, fever, plague, consumption, &c., be a sufficient proof of this principle, medical men seldom afford it a sufficient practical bearing upon their treatment; while the so-called heroic, but often mischievous operations of some, instead of aiding nature, often render her efforts inefficient or powerless. Few of our wide-spreading epidemics can be checked *in limine;* and although in their commencement there is violent reaction in the system, indicating much power, the latter is in almost all cases found greatly deficient, before the revolutionary movements have been completed. And do not the results tend to prove the truth of our position? Is not the patient uniformly found weak and emaciated, much of the *vital fluids* being consumed during the intensity of the fever. In such diseases, therefore, both theory and experience warrant us in asserting, that any great evacuation of the vital fluids must curtail the strength, and, consequently the patient's chances of contending against the disease. It may be argued, however, that the same results accompany the pure inflammatory diseases, in which blood-letting and other evacuations are absolutely required; but the answer is obvious; these can be checked in their progress, whereas the latter have a certain course to run before they terminate, and during that period require ample supplies of vital principles. The medical profession, in our opinion, has been much lowered in its philosophical character by the too prevailing belief, that every acute disease is under the mastery of active treatment,—a fallacy which the statistics of diseases in every civilized country sufficiently demonstrate. Notwithstanding these stubborn facts, it has a deep-rooted belief among the people, and has generated an insatiable appetite, in many districts, for medicines of a heroic character, and an admiration of the physician who is almost incessantly inflicting upon his patient some annoyance, either of a medicinal or manual description. This doctrine will be considered by some, perhaps by many medical men, as overstrained, and tending to induce scepticism in the powers of remedial measures. No such result would happen from a just and sound appreciation of the facts; indeed the very opposite, in our opinion, would occur. 1. Because true philosophical deductions respecting the mortality of diseases would raise medicine to its proper standard as a science, would tend to prevent misconceptions on the part of the public, and would be the best method of testing any new remedy, or new method of treatment. 2. Every disease of a decided character requires hygienic, dietetic, and, in almost all, more or less of medicinal treatment, (even those very affections that are admitted to be little under the control of art, with regard to their mortality,) for the very plain reason, that many or all of the functions of the body are deranged, and therefore require to be regulated as far as this is in our power. 3. Homœopathy, with its mantle of pseudo-philosophy, would be clothed with its natural apparel, viz. that of empiricism, and its pretended cures shown to be the work of nature, in place of the operations of art; while its failure in diseases, decidedly under the control of treatment, would be palpable and convincing. Although, therefore, we hold the opinion, that in several epidemic, and some other affections, medicine has only a very limited power over them, we are far from thinking active medical treatment inefficacious in checking the progress and mortality of a numerous class of diseases; but we do not hesitate to say, that were it less so, or even restricted to those where medicine was only calculatad to guide the disease, by regulating the functions, or supporting the strength and alleviating pain, the medical profession would still be noble and philanthropic, and worthy of being followed by enlightened and scientific men."

As regards the origin and pathology of Typhus, Dr. Davidson observes, "Almost all writers worthy of notice, ascribe the origin of typhus to some effluvia, or imponderable matter, which is absorbed into the system. It is not essential, as far as our present purpose is concerned, to determine whether the effluvia arise from animal and vegetable substances in a state of decomposition, or be the result of contagion, provided it be admitted that the principle absorbed is poisonous in its effects, upon the human system. How, then, does the poison operate on the system; and what are its effects? Some modern physiologists consider that a process of transformation, analogous to fermentation, is excited in the blood during fever, and that this continues until the process is completed. This theory has much plausibility, and even some probability, attached to it; for the blood is materially altered in chemical constitution, and this view explains, in a more satisfactory manner than any other, some of the laws of the disease, viz., its regular rise, progress, and decline, and the future exemption from attacks. Be this hypothesis, however, admitted or not, the researches of modern chemists have satisfactorily determined that the blood is essentially altered. Thus it has been found that the clot is soft and the fibrin smaller in quantity, the globules are increased in quantity, and the cruor is dissolved in the serum, colouring it red, and being precipitated from it in the form of a powdery sediment. These are by no means the characters of inflammatory blood, although it is held by some authors that a tendency to inflammation exists in typhus fever; the passive congestions, which fequently occur, being mistaken for inflammatory engorgements. For it has been shown by Magendie that congestions, petechiæ, sub-mucous and sub-epidermic hemorrhages, are most liable to occur when the proportion of fibrin is diminished, a state very characteristic of the pathological phases of typhus. If typhus be owing to the presence of a poisonous principle in the blood, are we in possession of any means for its speedy expulsion from the system, or must we wait for the spontaneous subsidence of its action, according to its own determinate laws? We fear, as we shall endeavour to show by and bye, that no means, whether mild or heroic. have the least effect in checking its progress, although there may be some which tend to lessen its intensity, or regulate its course, or keep the vital machinery moving until a crisis is obtained. It is obvious, then, that sound theory will not warrant us to employ any violent remedy which may vitally diminish the powers of the system, without checking or lessening the intensity of the disease; for the vital strength is rapidly consumed during its progress, and our ordinary interference should, in the large majority of cases, be limited to those means which regulate the natural functions of the body and support its strength, and when local lesions occur, these ought to be treated on general principles, with a due regard to the exhausting nature of the disease, and the capabilities of the system.

"This, in our humble opinion, is nearly all the length that we can safely go, with our present knowledge of the therapeutics of the disease; but we do not pretend to set a limit to future discoveries, or to assert that some remedy or antidote to this fatal scourge of the United Kingdom, as well as other countries, is not within the range of possibility."

Dr. Davidson takes a very able review of the measures usually employed in the treatment of Typhus, and appreciates their value as can only be done by a careful observer and judicious practitioner. We cannot follow him in all these details, but the following summary will exhibit his deductions:—

"1. That as typhus is a disease which cannot be checked *in limine*, and is often tedious in its progress, causing great emaciation and exhaustion, we ought not, without very strong and special reasons, to employ any measures which may vitally lessen the powers of life, such as bleeding, vomiting, and excessive sweating or purging.

2. The ordinary measures may be the following:—Place the patient in a large, well-ventilated apartment, on a matrass with few bed-clothes, let the head be shaved, and kept cool with an evaporating lotion, give a gentle purgative every second or third day, let the skin be bathed once or twice a-day with tepid water, and this may be accompanied with small doses of tartrate of antimony, antimonial powder, or ipecacuan. His drink should be light, cooling, and slightly

diuretic, and his diet nutritive, but light, and little liable to ascescency. When there is a tendency to congestion in any organ, a little calomel or hydrargyrus c. creta may be combined with the purgative, or calomel, with a small portion of opium, may be given every six or eight hours. The application of two or three leeches to the temples or nostrils is often useful in congestion of the brain, and also when there is intense headache, which is often the forerunner of delirium. Blisters are also often advantageous in such cases. Derangements of particular functions, or symptoms arising from idiosyncrasy of constitution, sometimes occur and must be treated accordingly.

3. Mercury in small doses is frequently useful in promoting several of the secretions, and in relieving the congestions of internal organs.

4. Opium is injurious in a large proportion of cases, from its tendency to cause congestion in the head; but when diarrhœa is a symptom, it ought to be administered with a view to check the exhausting evacuations.

5. Wines and other alcoholic liquors, as they contain both stimulant and alimentary elements, are the most to be relied on for supporting the strength; and are the least injurious. The pulse, taken along with the general symptoms of exhaustion, ought to be the rule for its exhibition, both as to time and quantity.

6. Ammonia, camphor, quinine, and other similar tonics, are not to be depended on in bad cases; and, when exhibited along with wine, frequently cause the patient to refuse both.

7. When the disease is complicated with local affections in the head, chest, or abdomen, these must be treated on the same general principles as the idiopathic disease, which they represent; with this important modification, that evacuations of all kinds must be employed more sparingly, and with much caution; and that even in these cases, if there be much prostration of strength and a very weak pulse, wine must be administered, although more moderately than in the simple disease.

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23. *Researches on Gout.* By ALEXANDER URE, Esq. (*London Med. Gaz.*, Nov., 1844.)—It has been uniformly observed, remarks Mr. Ure, that persons who indulge habitually in the use of animal food and fermented drinks, and lead at the same time an irregular, sedentary, inactive life, are prone to gout. A morbid plethora supervenes which gives rise to undue tension of the arterial system. The blood is loaded with nitrogenized principles and calcareous salts, and if the kidneys and skin fail in removing these from the system, they are sooner or later deposited upon the synovial membranes and the tendons, or within the arterial walls; in the former as urate of soda, in the latter as phosphate of lime.

The renal secretion is found to deviate more or less from the natural standard. It would appear from the researches of Frommherz and Gugert, that for some time before a fit of gout it contains no uric acid; whereas it is well known that at other periods there is generally a superabundance, so much so, that the urine of gouty subjects is remarkable for holding in suspension and throwing down that acid in the crystalline form. M. Rayer points particular attention to this fact, and Mr. Ure has recently had an opportunity of verifying it.

If, then, it be assumed that from occasional causes the uric acid be pent up and allowed to circulate with the blood, urate of soda will undoubtedly form. This Mr. Ure ascertained by the following line of research. A certain quantity of the fresh serum of human blood was set to digest in contact with a given weight of uric acid at the temperature of the living body, during two hours. It was then filtered. To the clear filtered alkaline liquid when cold, a few drops of very dilute muriatic acid were added, whereupon a cloud of white shining particles immediately began to fall down, which proved upon microscopic examination to be well-defined crystals of uric acid. It may be observed that the same dilute acid when added to the pure serum of the blood rendered it unusually limpid. Hence it was evident that some of the uric acid had been taken up and combined with the alkaline albuminate present in the serum.

On repeating the experiment at a higher temperature, the filtered serum, when diluted with water, afforded by the next morning a cloud of glistening particles, which, viewed by the microscope, were seen to be fan-like groups of acicular crystals of urate of soda. These, after a while, coalesced into little granular masses, resembling those of chalk stones.

Some white tophaceous particles, taken from the last joint of the finger of a gentleman who died of gout, yielded, after being dissolved in hot distilled water, a crystalline precipitate, identical in form with the preceding.

Further, on adding uric acid to a warm solution of tribasic phosphate of soda (the essential basic alkaline salt of the blood, according to Enderlin, Annalen der Chemie u. Pharm. Bd. xlix. p. 317,) fan-like tufts precisely similar in appearance to the above were obtained.

There can be, therefore, no question as to the possibility of uric acid being converted into urate of soda, through the medium of the serum of the blood, and that at the ordinary temperature of the human body.

It has been conceived that many of the phenomena of gout depend upon a depraved condition of the blood induced by intermixture with the above salt. This view seems the more plausible, when we call to mind that one form of gangrene, the senile, mostly attacks persons who have previously been gouty, or have led a life of luxury and indolence, and whose system has most likely been generating uric acid in excess; while another somewhat congenerous form of gangrene is met with in individuals, in whose body a slow but mortal poison has been at work, called *ergotine*, consequent upon the prolonged use of bread containing spurred rye. Both of these pathological conditions, however, are connected more or less directly with arterial inflammation, and to that we must look as the predisposing cause. Still, it cannot be denied that the primary irritant source in the former instance may have been urate of soda, in the latter *ergotine*.

Upon perusing an elaborate memoir on chronic arteritis, by the venerable Professor Tommasini, of Parma, published in a late number of the Annales de Thérapeutique, it will be seen that many anomalous symptoms characteristic of confirmed gout, are those of inflammation of the abdominal aorta. Thus it is stated that patients who died of that disease alone, complained of flatulence, frequent eructations, sense of pain and uneasiness referred to the epigastrium, besides other dyspeptic and nervous symptoms, more or less akin to those of hypochondria. Might not these facts assist in elucidating some of the rapidly fatal seizures of what is called gout in the stomach, where no trace of disease has been found in that organ after death?

Again, admitting with Prof. Tiedemann that calcareous incrustation is the sequel of arterial inflammation, abundant evidence is to be found recorded by Stoll, Selle, Lettsom, Michaelis, Kreysig, Corvisart, Lobstein, and Hope, illustrating the formation of earthy deposits in the walls of arteries and valves of the heart in gouty subjects.

In articular gout, tophaceous deposition occurs for the most part in the smaller joints, especially such as are exposed to much friction and pressure, as the metatarso-phalangar and the distal articulation of the great toe. But no part or structure of the motor apparatus is exempt. In a case that recently presented itself to Mr. U., it existed in the cartilage of the ear.

It has been generally recognized that the same morbific condition which involves an increased formation of uric acid is attended with defective secretory action of the liver. Hence it has been found that whatever stimulates the excretory duct of that viscus, and determines thereby a more or less free discharge from the biliary pores, checks the above formation, and exercises a salutary influence in the gouty habit. Accordingly, Hippocrates advised that purging should be resorted to upon the first motion of the humour in gout. From a thorough conviction of the importance of this principle, Mr. U. is solicitous to direct attention to a remedial agent which seems to exercise a specific influence over the hepatic function. This is the sulphate of manganese, a neutral salt, whose properties Mr. U. was led to investigate at the suggestion of Dr. Pereira. Manganese, in the state of proto-carbonate, is present in the waters of Marienbad, Carlsbad, and other German springs, whither gouty invalids annually resort in quest of health; in the state of oxide, it forms one of the normal constituents of the bones. It was first shown by M. C. G. Gmelin, of Tübingen (Versuche uber die Wirkungen des Baryts, &c., 1824, p. 96), that the manganese salts when injected into the blood-vessels augmented the biliary secretion to such a degree as to produce a deep yellow staining of the coats of the intestines, and of the great vessels in the vicinity. According to M. A. Barbet, (Journal de Chimie Médicale, tom. v. p. 534) muriate of manganese forms a main ingredient of a nostrum sold in Paris, under the name of the deobstruent powder of Rouvière. This, taken for a few days, is said to procure abundant bilious evacuations.

If a drachm of sulphate of manganese be dissolved in about half a pint of water, and swallowed before breakfast, it will generally occasion, after the lapse of an hour or so, one or more liquid stools. With the view of testing whether bile was thus discharged to any amount, a portion of the loose feculent matter was digested with strong alcohol, in order to separate the mucus, and thrown upon a filter; a limpid olive-coloured solution was obtained, which, after evaporation by a water-bath to the consistence of honey, yielded, with the addition of boiling muriatic acid, a notable quantity of biliary resin, together with a little fatty matter. Thus unequivocal proof was afforded of the excretion of bile.

This salt may be therefore reckoned essentially *cholagogue*, in the strict sense of the word. Its action is prompt, and soon over, nor does it produce any of those distressing and lowering effects which are so apt to follow the exhibition of mercury and antimony in certain constitutions. A retired navy surgeon, labouring under a feeling of weight and tenderness in the region of the liver, dragging sensations referred to the right shoulder, uneasiness about the epigastrium, dull headache, want of appetite, and paleness of the alvine evacuations, afraid to have recourse to mercurial preparations, took by Dr. Ure's recommendation the above salt in moderate doses, at intervals during three weeks. The result was complete removal of the preceding symptoms, and restoration to permanent health.

Sulphate of manganese has a cooling and bitter taste, resembling that of Glauber salt. Dr. Thomson (Chemistry of Inorganic Bodies, vol. ii., p. 587) says, "it may be administered as a cathartic, in doses of from half an ounce to an ounce." Dr. U. has always found a much smaller quantity suffice, and should be reluctant to give it to that extent. It acts most efficiently when dissolved in a considerable quantity of water. On particular occasions infusion of senna furnishes a useful adjunct.

Mr. U. forbears touching upon colchicum. That potent drug we are told suppresses but does not cure gout, and, when long continued, inflicts serious injury upon the constitution. In many instances it would appear to act as a slow poison. If, indeed, as Sir B. C. Brodie alleges, it stops the biliary secretion, its protracted use must be fraught with mischief. It ought therefore only to be exhibited in urgent cases, and that sparingly.

In order to abate the erethism of the vessels of the gouty circulation, to further the absorption of effused fluids, and to arrest the recurrence of attacks, which, in the long run, lead to distortion and anchylosis, the topical employment of acetic ether and rectified coal naphtha will, Dr. U. says, be found highly serviceable. The former was first introduced to the notice of the profession by M. Sedillot, in the Transactions of the Medical Society of Paris, (No. x. Mess. An. 5,) but never seems to have attracted attention in England. Acetic ether generally determines a speedy sedative agency in the more acute stage of the malady, when applied with gentle friction over the whole of the affected surface to the amount of half an ounce every twelve hours, provided after each friction the patient is kept warm in bed. In the subacute form of the disease, Mr. U. has witnessed very beneficial effects from simply penciling over the part with a camel-hair brush dipped in naphtha.* In some instances, indeed, this seemed to have the power of warding off an impending paroxysm. Mr. U. was first led to try it in gouty cases, from being told by an extensive manufacturer of the article near Birmingham, that affections of the joints were unknown among his workmen, while they were common enough among the operatives of other factories in the neighbourhood.

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* Care must be had not to confound this with a spirit sold under the same name, used for making hatters' varnish, and lately introduced as a medicine. The properties of the two are quite dissimilar.

Coal naphtha is a pure hydro-carbon, almost identical in nature and properties with the naphtha which occurs native on the shores of the Caspian Sea, in Persia, and other countries of Asia.

Naphtha topically applied imparts a feeling of warmth, sometimes accompanied with slight tingling. It acts obviously upon the principle of a mild but penetrating counter-stimulant, determining contraction of the capillaries, increase in the rapidity of their circulation, and progressive absorption of liquid effusion. As such, its use is of course contra-indicated whenever there is general excitement of the vascular and nervous system. The influence of counter-irritation over gout was amply demonstrated, though in a rather severe manner, by Sir William Temple, on his own person, nearly two centuries ago. That distinguished statesman, who pithily designated "gout a companion that ought to be treated like an enemy, and by no means like a friend," heroically applied the Chinese moxa to his foot, and thereby got permanently cured. (Essay upon the Cure of Gout by Moxa, 1677. Works, vol. i., p. 134.) His account of the disease is given with nosological precision, and nothing can be more graphic than the detail of what he felt while the burning cone was in contact with the skin.

Among other local applications from which occasional advantage has been derived, may be enumerated tincture of arnica, and an ointment composed of one part of extract of belladonna, incorporated with eight or ten parts of cerate. Poultices are objectionable because they relax the capillaries.

After extensive experience in the employment of naphtha, Mr. U. can confidently assert that no instance has ever presented itself of the slightest tendency to what is called "gouty metastasis," that is, the translation or removal of the disease from the extremities of the body to some internal part or organ. It need scarcely be observed that all outward means, to be availing, must be aided by appropriate hygienic and therapeutic measures.

In order to get rid of the œdema which usually supervenes, after a fit of articular gout, it is advisable to support the limb in a position considerably elevated above the level of the body, so as to favour the ascending circulation. By this procedure absorption is facilitated. The support, to be efficient, however, ought to be steadily maintained both night and day. Although rather irksome at first, patients soon become habituated to it. An oblong deal box, having the sides a little elevated and sloping, with belts slung across, will be found to answer the above purpose.

As a remedial agent, seemingly endowed with qualities capable of counteracting and removing tophaceous deposition, silicate of potash, the *liquor of flints* of the older chemists deserves a trial. This salt passes through the system unchanged, and can be detected in the urine of animals to which it has been given by the mouth. It exercises a very powerful solvent action upon the urate of soda. Mr. U. has prescribed it for one or two patients in doses of ten and fifteen grains twice a day, dissolved in six or eight ounces of water, with apparent benefit.

The efficacy of the benzoic preparations in controlling phosphatic deposition, to which gouty people are likewise prone, was shown by Dr. Ure in a paper published in 1843, and if, he remarks, as Prof. Liebig states, "the larger the amount of soda which combines with these acids," alluding to the sulphuric and hippuric, "the less comes to the share of the uric acid," it may be inferred that the administration of benzoic acid, will, in consequence of the surplus production of hippurate of soda, necessarily tend to supersede any inordinate formation of urate of soda.

In reference to the surgical treatment of gouty deposition, it may be suggested that when this is unconnected with the articulation, has a pulpy feel, is augmenting in size, distending the cellular texture and skin, and causing inconvenience and deformity, a small subcutaneous puncture may be made with a tenotome at a few lines distance from the tumour, and its pultaceous contents slowly pressed out. If left to itself the concrete mass eventually undermines and ulcerates the integuments, and is expulsed amid a more or less profuse suppuration. Under such circumstances emollient poultices ought to be assiduously applied, and the exposed surface freely touched with nitrate of silver. This salt possesses the property of decomposing and disintegrating both the urate of soda and phosphate of lime.

Where, as frequently happens, the ulcerated opening remains fistulous, and gives issue at intervals to chalky-looking fragments, the nitrate of silver may be employed in solution. Sometimes it is the articulations themselves which furnish the tophaceous matter; here no interference is called for, since little or no annoyance ensues, owing to the changes which the constituent parts have undergone.

24. *Curious Case of Paralysis.*—Dr. Lion relates, in *Caspar's Wochenschrift*, No. 33, the following curious case:

A man, 70 years of age, gouty and lame through gout of the left foot, after drinking a few glasses of beer, was struck apoplectic, with hemiplegia of the left side, showing signs of congestion to the head, and vomiting a clear watery fluid. The left or paralyzed arm was completely abstracted from the influence of the patient's will, save that he had the power left of grasping my hand strongly when put within his hand; he could not, however, give me his hand when desired to do so, or in any way guide it as he wished; the hand seemed to be jerked involuntarily towards the man's face, so that he struck himself continually when he attempted to move the arm. The patient, by blood-letting from the opposite arm, leeches to the head, blisters to the spine, &c., recovered in great measure; though from his great age it is doubtful whether or not he will recover completely.

This case is interesting, inasmuch as neither sensation nor motion is completely destroyed. The patient has feeling in the arm when it is touched, and can grasp a hand forcibly; he can also move the arm, and that actively, but he cannot control its movements; and curiously enough, the involuntary tendency is towards his own face. I do not remember to have met with a case precisely of the same kind in the course of my reading; nor do I feel myself competent satisfactorily to explain the phenomena.—*Lond. Med. Gaz.*, Nov., 1844.

25. *Ovarian Dropsy discharging itself by the Umbilicus.*—Dr. Lambrecht relates, in the *Medicinische Zeitung*, No. 30, 1844, the following interesting case:

A woman, 28 years of age. had suffered for two years with dropsy of the right ovary. When the swelling had increased to a great size, the parts around the navel began to get hard; the navel itself projected, and finally gave way, upon which, and for a long time afterwards, there followed a discharge of purulent lymph, accompanied with a notable and progressive diminution of the abdominal enlargement. Shortly after her recovery this woman married, became pregnant, and gave birth to a strong boy. After delivery the abdomen did not shrink in the usual degree; by and by, on the contrary, it increased in size again, which increase was found owing to an ovarian dropsy, which went on augmenting in size, and at length terminated in the formation of an abscess as on the former occasion.—*Ibid.*

26. *Amnesia complicating Acute Rheumatism.*—The following case of amnesia is related by Dr. Linsem in the *Med. Zeit.*, No. 20, 1844:

A gentleman, by exposure to cold, contracted a fixed rheumatic pain in the neck, for which he only sought assistance eight days after the commencement of the attack. He had already been subject to rheumatism, but had always recovered without medical assistance till now. He was ordered dry cupping over the part affected, and fifteen drops of colchicum wine every two hours.

He was also desired to keep himself warm; but having, instead of this, exposed himself anew to cold, I was required to visit him several times on the next succeeding days, on account of several new and rather alarming symptoms, which led me to infer a metastasis of the rheumatism to the membranes of the brain. The patient could only utter, with extreme slowness, and stammering all the while, a few unconnected words, and had no power to name the articles of every-day life that were set before him, such as a book, a knife, a pen, &c.; the patient, nevertheless, could write his name down, and appeared perfectly to understand all the questions that were put to him concerning them. When the name of any thing placed before him was given him, he could also repeat it readily enough. The motions of the tongue appeared to be unaffected. The application of eight cups, with scarification behind the ears, succeeded by a blister, completely removed this condition. The rheumatism reappeared in the neck, and required further treatment.—*Ibid.*

27. *Copaiba more active when combined with Purgatives.*—M. Jacquetant gives a full account of the hospital practice of M. Diday in the cure of gonorrhœa, by which it appears that the balsam of copaiba acts much more energetically in the removal of that disease if combined with purgatives. Many instructive cases are shortly given of this mode of treatment, and compared with others in which the copaiba was administered alone, and also with others in which the cure was attempted by means of purgatives alone. The formula which M. Diday found most successful was three drachms of the balsam copaiba, 4½ drachms of the powder of cubebs, and 45 grains of the powder of jalap made into an electuary, of which the half is taken in the morning, and the remainder in the evening. The treatment rarely lasted more than five days, by which time a permanent cure was in general effected—*Edin. Med. and Surg. Journ.*, Jan., 1845, from *Gaz. Méd. de Paris*, July 6, 1844.

28. *Observations on Relaxed Rectum.* By H. Hunt, M. D.—The author describes this as a malady of not unfrequent occurrence, and productive of much inconvenience and distress. The most prominent symptoms are obstinate constipation, a frequent desire to evacuate the bowels, a constant sensation of load in the rectum, which is not relieved by an evacuation, and the discharge, after much forcing, of mucus streaked with blood. The bladder, urethra, and other adjacent organs, often participate in the irritation.

On examination, the rectum will be found preternaturally enlarged, and more or less filled with large folds of mucous membrane pressing down on the anus, which impede the evacuation of the fæces, introduction of instruments, and injection of enemata.

This morbid condition of the mucous membrane the author attributes to a neglected state of bowels, and repeated and great distension of the rectum by fæces, which causes the mucous membrane, when the bowel is empty, to hang in loose folds.

This disease, if neglected or mismanaged, gives rise to prolapsus ani, an irritable and painful state of the sphincter, and an introsusception of the upper and undilated portion of the intestine into the lower and dilated part.

The treatment recommended for the *simple* relaxed rectum is the avoidance of all aperient medicines, and the injection of a pint of cold water into the bowel every night previous to going to bed; the removal of the prolapsus, and the application of belladonna ointment to the irritable sphincter.

In case of introsusception of the rectum, in addition to the use of the cold water injection, the exhibition of some mild aperient, taking care that whilst a costive or hardened state of the fæces is prevented, purging is avoided; and a course of the hyd. c. cretâ with hyoscyamus or conium, or of the iodide and sarsaparilla.

Dr. J. Johnson considered that the first class of cases described in the paper were common enough. The author, in these cases, seemed to deprecate altogether the use of aperient medicine; in this respect he, Dr. J. differed from him. It must be recollected that to effect a cure the colon as well as the rectum must be acted upon, as fæces often accumulated above the latter organ. Now the colon would not be reached by the small cold-water injection recommended in the paper, and these injections were far from being always harmless, for they were occasionally productive of great pain and severe tormina. He had even seen them produce faintness in a patient from these causes. In the treatment, then, of these affections, he preferred the milder aperients, such as tartrate of potash, or confection of senna, for these produced no irritation or straining; but were of the most essential service. In cases of relaxed and protruding rectum, he had used Ward's paste with much advantage. Under its employment the folds of the rectum became corrugated, and the canal altogether strengthened. With respect to local mechanical contrivance to keep the weakened bowel in position, he knew of none which in efficacy could be at all compared to two silk handkerchiefs, one of which was placed round the waist, and the other attached to this behind and in front, kept a soft piece of sponge covered with linen in such a position that it pressed gently on the lower part of the rectum, and kept it in position.

Mr. Bransby Cooper bore testimony to the value of mild aperients in the cases mentioned by Dr. Johnson. In the treatment of prolapsed rectum, however, neither aperients nor mechanical contrivances of any kind were of half the service as the adoption of the plan recommended by Dr. Hunt, in his paper—the evacuation of the bowels at night. When this plan was adopted the patient had the advantage of remaining in bed for seven or eight hours, during which time the rectum would be kept in position, and by this means a perfect cure might be effected; a termination rarely to be expected from the use of medicines or of mechanical support. The rule alluded to was one of great value in all diseases of the rectum. When the bowels were evacuated in the morning, irritation was kept up during the day, either by the sitting posture or by moving about and all attempts at cure were frustrated.

Mr. Henry Lee stated that it appeared to him that the disease under consideration had hitherto been very imperfectly explained. In dissecting the rectum, a strong band of muscular fibres is found, arising from the posterior part of the pelvis, taking a course downwards and backwards, and encircling the lower extremity of the bowel. These muscular fibres are part of the levator ani, and although not usually described, are very important with regard to the disease in question. They lie in close contact with the sides and posterior part of the bowel, the lower two inches of which are thus encircled by strong muscular fibres, taking the same direction, and performing the same office, as the fibres of the sphincters ani. Whenever it happens that a portion of the relaxed mucous membrane comes within the grasp of these muscular fibres, the very natural effect is, that the return of the blood in the veins in the constricted part is retarded; and this in reality is the cause of the deep-seated dull pain, the tenderness, and the inflammation, which are so frequently observed in these cases. The principal object of local treatment in such instances is to relieve the inflamed portion of mucous membrane from the constriction caused by muscular fibres, which has just been described. Temporary relief is immediately produced by returning the relaxed and congested mucous membrane to its natural station; but the benefit thus derived continues as long only as it is retained there.

It has been stated that the different instruments which have at various times been used in this complaint, instead of giving relief, have tended to increase the irritation of the part. This appears in a great measure, if not altogether, to depend upon the mode in which these instruments are constructed. They are generally so contrived that the bulb (by means of which the instrument is retained in the bowel) is placed, when the instrument is worn, immediately within the grasp of the muscular fibres of the levator ani, and it is to this cause that the irritation complained of is principally to be attributed. If, however, the stem of the instrument is made sufficiently long, so that the bulb when introduced, is situated above instead of within the circular fibres of the levator ani, the instrument can be worn not only without inconvenience but often with the greatest comfort. Such instruments are kept by Messrs. Savigny, in St. James's Street. With regard to the plan proposed of removing portions of the mucous membrane in this disease, Mr. Lee considered the application of the strong nitric acid to the part as a safer and much less painful operation than that which was usually performed by means of a ligature.

Dr. Dickson supported the opinion of Dr. Johnson in regard to the employment of mild medicines, which acted on the bowel above the rectum, in case of obstinate constipation. He had found no remedy more efficacious in these cases than a combination of extract of hyoscyamus, and blue pill, in large doses. This was often of service in cases even of stricture situated high up in the bowel. He mentioned also with commendation a medicine for the knowledge of which he had been indebted to the late Dr. Gooch; it consisted of a mixture of aloes with sulphuric acid. In one instance in particular he had employed this medicine with the utmost advantage. The patient was a lady of constipated habit, who on one occasion had no movement of the bowels for sixteen days. Various gentler means to obtain an evacuation having been employed without effect, the aloes and sulphuric acid were administered; the bowels were quickly relieved, and during the remainder of her life, a period of six years, they were always easily acted upon. She died from diseases altogether independent of constipation.—*Proceedings of Royal Med. Chirurgical Soc.*, in *London Med. Gaz.*, Dec., 1844.

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29. *Cryptogami of the Hair constituting Herpes Tonsurans* (*Ringworm*).—M. Gruby communicated to the Academy of Sciences a memoir on the above subject, of which the following is the analysis:—

Among the diseases of the scalp there is one which, by its contagious nature and the obstinacy with which it resists treatment, is deserving of the attention of the pathologist. It is the tinea tondens of M. Mahon, or the herpes tonsurans of M. Cazenave.

Tinea tondens is principally a disease of the scalp, and is characterized by the falling of the hair in circular patches, covered with small white scales, and with slight inequalities analogous to what is vulgarly called chicken flesh. On examining attentively, under the microscope, the fragments of hair coming from one of these patches, it becomes evident that their entire tissue is filled with cryptogami, and that the hairs are still covered with the epidermic scales when their interior is already full of sporules. These cryptogami originate in the interior of the root of the hair, under the form of a group of round sporules. As the hair grows, the cryptogami which it contains also grow, until it escapes from its follicle.

The cryptogami which constitute tinea tondens differ so much from those which constitute phytoalopecia (porrigo decalvans) that these diseases cannot be confounded. Their seat, their development, and the relation which they present with the tissue of the hairs, are quite distinct from what occurs in the latter disease. The cryptogami of tinea tondens are only formed of sporules and chaplets; it is very seldom that we meet with elongated sporules imitating branches. The cryptogami of phytoalopecia, on the contrary, present numerous branches, curved, undulated, the sporules being placed on the side. In tinea tonsurans the sporules are large (diameter equal to 2 to 6-1000th of a millimetre). The sporules of the cryptogami of phytoalopecia, on the contrary, are very small; their diameter is only 1 to 5-1000th of a millimetre. In tinea tonsurans the sporules fill the interior of the hairs, whilst their external surface is but slightly altered. On the contrary, the sporules of the *microsporon Oduini* are placed on the external surface of the hairs, and form quite a sheath around them. The cryptogami of tinea tonsurans originate and develop themselves in the root of the hairs. The microsporon Oduini. on the contrary, develop themselves on the external surface of the hairs, outside of the follicles. These characters are so invariable in tinea tonsurans that there is not a single diseased hair which does not present them.—*Northern Journ. Med.*, July, 1844.

30. *Vaccination, Re-Vaccination, Susceptibility to Small-Pox.* By Dr. Schaeffer.—Of 139 persons attacked with small-pox in the course of eight years, in a district of Prussia, 47 had not been vaccinated and 92 had been vaccinated; of the unvaccinated 15 died, of the vaccinated 1 was lost. In addition to these, it was known that 121 persons who had been vaccinated were in immediate attendance upon the patients labouring under small-pox without becoming affected.

The susceptibility to infection from small-pox appears to increase in a very regular progression, according to the number of years which have elapsed since the vaccination: at the end of the eleventh year the susceptibility to small-pox contagion is again very considerable; and it appears to reach its maximum after the sixteenth year. Almost the same progression as occurs in reference to the number of years since vaccination was performed, also occurs with reference to the more perfectly developed or severer forms of small-pox in the vaccinated: up to the fifteenth year not more than one-fourth of the vaccinated are severely affected; between the sixteenth and thirtieth years somewhat more than one-third, and after thirty years half of those attacked have small-pox in a severe form. This appears very distinctly in the following table:—

Vaccinated persons.	Years elapsed since the vaccination.	Milder forms of small-pox.	Severer forms of small-pox.
4	1 to 5 years.	3	1
7	6 " 10 "	5	2
6	11 " 15 "	5	1
17	16 " 20 "	11	6
23	21 " 25 "	15	8
23	26 " 30 "	14	9
10	31 " 35 "	5	5
2	36 " 40 "	1	1
92		59	33

The following general conclusions may be drawn:—

1st. Re-vaccination as a general rule is well undertaken between sixteen and twenty years of age, inasmuch as during this period the susceptibility or resusceptibility to small-pox is greatest.

2d. From the ninth to the tenth year after the first vaccination, the susceptibility to be affected anew with the vaccine poison exists in a considerable degree: re-vaccination among children of ten years of age having a like amount of efficacy, being successful as frequently as among older individuals.—*Lond. Med. Gaz.*, January 3, 1845, from *Medicinische Zeitung*, No. 13, 1844.

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31. *Results of the Re-vaccinations performed in the Prussian army in the year* 1843.—In this year the number of individuals vaccinated amounted to 42,998, of whom the number who had *distinct* traces of having been already vaccinated

was	34,390
Having *indistinct* traces	6,258
Having no traces whatever	2,350
Of the number vaccinated the cow-pox ran its course regularly in	22,062
Irregularly in	8,613
and the vaccination was without an effect in	12,323
In the latter number, vaccination was tried again with effect in	2,439
Without effect in	9,671

Of those who were vaccinated, or re-vaccinated with effect, in the course of

this year, 1843, there were attacked with varicella	11
With varioloid	8
With genuine small-pox	4

It therefore appears that of the 42,998 individuals who were vaccinated or re-vaccinated in the Prussian army, in the course of the year 1843, 22,062 were done with such effect that genuine regular cow-pox followed the operation. Of 100 vaccinated or re-vaccinated, consequently, the protective pustule went through its regular course in somewhat more than 51, which is very nearly the proportion which was observed in the years 1841 and 1842.

In the course of the year 1843, small-pox prevailed epidemically over the Prussian monarchy; and the disease appeared with unusual frequency among the troops, 167 individuals having been attacked with small-pox in one shape or another in the course of the year; the disease showing itself as varicella in 72, as varioloid in 80, and as unmitigated small-pox in 15.

Of the whole number of cases, 30 of varicella, 40 of varioloid, and 6 of genuine small-pox, 76 in all, occurred in individuals who had not been vaccinated: and again, 31 cases of varicella, 31 of varioloid, and 4 of genuine small-pox, occurred in individuals who had been once or twice subjected to re-vaccination in former years without effect; and 11 cases of varicella, 8 of varioloid, and 4 of true small-pox, as already stated, occurred in individuals who had been re-vaccinated with success in the course of the year. Finally, two persons were attacked, one with varioloid, another with genuine small-pox, who had not been vaccinated in their youth, but who had at a later period gone through a former attack of small-pox, distinct evidences of which they still bore on their persons.

The disease in the 23 men re-vaccinated in the course of the year was mild and favourable, except in a single instance, in which death followed. Two other deaths occurred in the Prussian army from small-pox in the course of the year 1843; one in a man who had been vaccinated in the year 1842, the other in a man who had been re-vaccinated in 1843 without effect.—*Ibid.*

32. *Experimental Researches on the action of Fatty Oils on the animal economy.*—MM. Gluge and Thiernesse undertook the present experiments, as they deemed it of importance to determine the mode of action of certain substances whose influence is little understood. They thought it probable that several medicines, formerly recommended by trustworthy practitioners, but now almost completely abandoned, would not probably have fallen into oblivion if their administration had rested on an established scientific basis; for most discoveries that cannot be reduced to laws on rational principles, become almost inevitably neglected, after having been adopted by some and rejected by others without examination. In this inquiry MM. Gluge and Thiernesse proposed to examine the action of olive and of cod-liver oil on the animal economy. The object of their inquiry was threefold:—1st. To determine on what organs the fatty oils, and the foregoing oils in particular, acted; to ascertain the modifications they caused; and to test to what extent they might be employed. 2d. To examine more accurately the influence of those oils on the fibrine, albumen, and globules of the blood. 3d. To examine the researches of others bearing more or less on this subject. MM. Gluge and Theirnesse have by no means completed their researches on these several heads, but still they think it may be useful to publish the results they have ascertained. The experiments consisted of four series in the following order:—

1. Injections of olive oil into the external jugular vein.
2. Injections of cod-liver oil into the same vessel.
3. Administration of olive oil by the mouth, both in uniform doses, and in doses gradually augmented every day.
4. Administration of cod-liver oil in the same way.

Dogs, the animals experimented on, in some instances swallowed the oils without difficulty, but in other instances testified so much repugnance to them that they had to be forcibly administered. With a few exceptions, the oils employed were clarified olive oil, and lemon-coloured cod-liver oil. The general conclusions deduced by MM. Gluge and Thiernesse from their experiments, are as follows:—

1. Olive oil and lemon-coloured cod-liver oil present no appreciable differences in their action on the animal economy, whether administered by the

mouth or by being injected into the veins, except that in some instances the fibrin of the blood and the muscular fibre acquired more density under the influence of the cod-liver oil—a result which was, however, far from constant.

2. Dark-brown unclarified fish oil, injected into the vascular system, promptly asphyxiates the animal, and causes a sudden decomposition of the blood, as is sufficiently proved by the irregularity of the globules of the blood, and by the existence of crystals in that fluid, which were detected by the microscope.

3. The fatty oils, however introduced into the system, have a natural tendency to be deposited in the liver, the lungs, and the kidneys.

4. The fatty oils are deposited in the foregoing organs in two different ways: they may be effused in their parenchyma by transuding through the capillary vessels, or they pass through the capillaries into the biliary cells, the pulmonary vesicles, and the tubuli uriniferi.

5. Animals survive the introduction of those oils into the blood through a vein for a long time, even if the injection is reiterated, if only the precaution is taken to inject but a small quantity at a time; the oil then disappears, first from the blood, and successively from the lungs, the liver, and the kidneys.

6. The effects of oils administered by the mouth vary greatly according to the dose and the length of time during which they are administered.

7. When the dose is augmented every day, the animals lose their appetite, get thin, become affected with cough and considerable dyspnœa—in a word, present all the symptoms of pneumonia, to which dogs fall victims after about a month, and horses in a much shorter period.

8. The morbid appearances found in those cases are complete or partial hepatization of the lungs, accumulation of a fatty fluid in the parenchyma of the lungs, and also a deposit of the same fatty matter in the liver, the kidneys, and the blood.

9. The hepatization of the lungs is always proportional to the quantity of oil swallowed.

10. Oil when swallowed is absorbed by the villi of the intestines, and so being introduced into the blood, circulates with it, and arrives at the organs in which it is to be deposited—namely, the liver, the lungs, and the kidneys, where it causes changes which may be thus named—*fatty lung*, *fatty liver*, and *fatty kidney*.

11. Disordered digestion, such as is excited when too large quantities of oil were administered to some of the dogs, may occasion a peculiar form of pneumonia, as described by the old physicians by the name of *bilious pneumonia;* a fact doubted and denied by some modern physicians.

12. When a fatty oil is administered in small quantities for a short period of time, it disappears insensibly from the blood and the organs in which it was deposited.

13. Animals to whom the oils were administered in a small quantity every day continued to enjoy good health.

14. Fatty oils undergo no alteration from the period of their absorption by the villi of the intestines, or of their injection into the veins, until they reach the organs in which they are deposited.

15. It is altogether in the lungs, liver, and kidneys, that the transformation of the oil is effected, which renders extremely probable the hypothesis that fatty oils are burned in the lungs and transformed into bile in the liver, and concur in the formation of urine in the kidneys. But every thing relating to this point is yet obscure. The quantity of oil found in the bile and in the urine was always very small, compared to the quantity which was accumulated in the liver and in the kidneys.

16. When fatty oils are used medicinally, it is necessary to exercise the muscles, and also the lungs, and not to neglect, as is too often done, carefully adjusting the dose; for if cod-liver oil is a precious therapeutic agent when administered with discretion, it may in a very short time compromise the health of those to whom it is given incautiously and inconsiderately.

17. Fish oil of a dark colour should never be administered, even if (as seems

probable,) the powers of digestion may destroy or partly remove its pernicious properties.

18. The fatty oils excite the same organic modifications, particularly fatty pneumonia, in herbivorous and in carnivorous animals.

MM. Gluge and Thiernesse finally suggest that the efficacy of emulsions in acute catarrh of the lungs may be explained by the introduction of a certain quantity of oil into the lungs, which prevents the air coming into immediate contact with the tissues that are deprived of their epithelium by the disease.—*Dub. Med. Press,* Dec. 4th, 1844, from *Gaz. Méd de Paris.*

33. *Efficacy of Digitalis in a case of Pulmonary Hepatization.* Dr. Lauer relates in the *Medicinische Zeitung,* a case of pulmonary hepatization following pleuro-pneumony, in a Prussian soldier, successfully treated by a strong infusion of digitalis, with the addition of nitrate of potassa. Complete resolution of the hepatization was, he says, effected.

SURGICAL PATHOLOGY AND THERAPEUTICS, AND OPERATIVE SURGERY.

34. *Enterotomy successfully performed in a case of Internal Strangulation of the small intestine.*—M. J. G. Maisonneuve, read to the French Academy of Sciences on the 16th Sept. last, a case of internal strangulation of the small intestine successfully treated by him, by the operation of enterotomy.

All surgeons agree as to the powerlessness of art, in internal strangulations of the small intestines. The records of art do not afford a single case of the cure of that terrible disease. In one of those desperate cases M. Maisonneuve tried a new operation, and success crowned his efforts. The case was that of a lady, ætat. 64, who was affected for fifteen years with an inguinal hernia of the right side. The tumour suddenly became painful and increased in size—in a word, all the symptoms of strangulated hernia set in, and were in vain met by the usual treatment. M. Maisonneuve then performed the operation for strangulated hernia in the usual way. All went well at first, but in five or six hours serious symptoms set in, and a second operation held out the only chance of safety. But here, said M. Maisonneuve, the rules of science failed me; I had no precedent to guide me, and I was compelled to rely entirely on an attentive examination of the circumstances of the particular case.

The prominence of the distended coils of the small intestine through the abdominal parietes suggested to me for the moment the idea of cutting down on one of those coils of intestine, drawing it out, and establishing an artificial anus; but I observed on the one hand that a new strangulation might have formed in the herniary orifice, behind the wound of the first operation, and on the other, that by simply dilating the first incision, the herniary orifice might permit me to reach one of the distended portions of small intestine. It was with the utmost regret that I divided the adhesions of the original wound, which were already united by the first intention; I then separated the flaps of the sac, and reached the orifice of the hernia. On doing so I found that my first idea was unfounded, the orifice was free, no new strangulation had occurred; I had therefore no other resource than to search for a coil of small intestine above the strangulation, and I did so on the instant. Passing the right index finger through the herniary orifice, I broke down some false membranes, and then exploring the parts contiguous to that orifice, I felt a coil of intestine adherent to the abdominal parietes, and which from its considerable distension, I recognized as a portion of the intestine above the strangulation. My first idea was to draw it through the wound, and having opened it, to fix it to the wound by some points of suture to establish an artificial anus: but on examining with great care I ascertained that the adhesion of this portion of the gut to the abdominal parietes, and probably also to the adjacent coils of intestine, were of such a nature as would render drawing out the gut, on the one hand, difficult and even dangerous; while, on the other hand, they would probably be sufficient to prevent the fæces from being effused into the abdomen. It occurred to me, therefore, that in order to accomplish my object, the establishment, namely, of a provisional artificial anus, it would be sufficient to pinch up a fold of the intestine and make an incision one or two centimetres long into it. Accordingly I seized a fold of the intestine with a dissecting forceps, along which I passed a scissors, and cut the fold transversely; a jet of fæces escaped immediately. I passed in my finger to ascertain whether the intestine on contracting had lost its relations to the orifice of the hernia; and then finding that the opening in the intestine was somewhat too small, I enlarged it sufficiently to admit the finger into the gut. The symptoms were now soon alleviated, and the patient recovered perfectly.

The full details of the case are given in the *Archives Générales* for Oct. last.

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35. *Neuralgia of the stump after Amputation.*—The following very interesting and instructive case of Neuralgia of the stump after amputation, in which secondary amputation was resorted to without success, is recorded by Dr. James Duncan, in the *Northern Journal of Medicine*, Oct. 1844.

"J. R., æt. forty-five, an Irishman, was admitted into the Royal Infirmary, under my care, on August 30, 1843.

"He had been employed on the Edinburgh and Glasgow Railway, and in August 1840 one of the carriages passed over the limb, tearing it off immediately above the ankle, and otherwise injuring it severely The extremity had in consequence been amputated by Dr. Hamilton of Falkirk a little below the knee-joint. The case had gone on remarkably well until about six weeks after the operation, when the stump became the seat of slight neuralgic pains. These continued to increase, notwithstanding a variety of medical treatment, and at last they became such a source of annoyance and distress to him, that he was obliged to abandon the situation on the railway, to which he had returned some time after the operation.

"When admitted under my care, the pain was described by him as being exceedingly severe more particularly during the night, and such as almost altogether to banish sleep. There was not the slightest reason to believe that the patient feigned; his employment was by no means an arduous one; he had a family depending upon him for support, and, above all, his appearance was that of a person worn out by continued suffering.

"When admitted, the stump was carefully examined, under the belief that the pains might depend upon the divided ends of the nerves being either injuriously involved in the cicatrix, or applied over the ends of the bones. Nothing of this kind, however, could be discovered, no enlargements of the extremities of the nerves could be made out, and altogether the stump was as well formed and apparently as serviceable a one as could be met with. In addition the pain was not confined to any particular spot, but affected the whole stump below the knee, very slight pressure on any point producing very acute pain.

"As his general health appeared to be much disordered, it was thought possible that by improving this the painful affection might be relieved. A slight alterative course of the blue pill was accordingly exhibited, with the effect of somewhat improving his general condition, but without any the slightest amelioration of the local symptoms. This was followed up by the internal exhibition of tonics, and the other remedies occasionally found useful in such cases; amongst these may be named the Quinine, Carb. Ferri., Arsenic, &c., but all without effect.

"Local remedies of different kinds were likewise tried. At first, as there appeared to be some slight fulness with increased heat of the parts below the knee-joint, leeches in considerable numbers were applied, and these were followed by a succession of blisters to the part. For a time the blisters appeared to act beneficially, the pain being relieved, although by no means removed, for a day or two after their application, as long as the discharge produced by them continued. Even this slight temporary relief, however, speedily ceased to follow their employment. The painting over the parts with a strong Tinct. of Iodine was next tried, and likewise with temporary relief, and that of longer duration than followed the use of the blisters. This application also soon failed to have any effect, and various anodyne remedies were next tried, but without their having the slightest influence.

"On the whole, the severity of the symptoms continued to increase, and the tenderness became so excessive that even the drawing of a feather over the surface of the stump made the patient shrink. His appearance became more haggard, the expression of his face more anxious, his appetite became more and more impaired, he was worn out by want of sleep, and he became much emaciated.

"From the time of his admission into the hospital, the patient had been incessantly urging me to remove the stump, a request which I was exceedingly unwilling to comply with, inasmuch as I did not believe the operation would be followed by any benefit at all proportioned to the risk incurred.

"When, however, all the means I could think of had been tried, I was reluctantly compelled to think of having recourse to this step; and as the patient himself was more and more urgent, it was determined, after a consultation with my colleagues, to give him the chance afforded by amputation higher up. I explained to the patient the risk he incurred by the operation, and likewise the possibility if not the probability of the pain returning in the new stump. He was, however, determined on having the amputation performed, and stated his resolution, if we refused to comply with his wish, to leave the hospital, and find some surgeon who would.

"Amputation above the knee was accordingly performed on November 16. The patient endured it manfully, and when carried to bed, expressed himself as delighted with the relief afforded. The parts removed were carefully examined. The articulation was anchylosed, and free from any existing disease. The extremities of the nerves were thickly imbedded in soft parts, and the enlargements, almost invariably found after amputation, existed to even a less extent than is usually the case.

"Every thing went on favourably for a time after the operation. The stump healed with great rapidity, and for some ten weeks the patient remained perfectly free from pain; he was in high spirits, his appetite exceedingly good, and his appearance was that of a person in robust health. The patient himself chuckled at the idea of having known better than the doctors what treatment was necessary in his own case, and we were beginning to think that a permanent cure had in reality been effected. About the tenth or eleventh week, however, the patient began to complain of some slight pain in the stump, but was exceedingly unwilling to believe that it at all resembled that under which he had previously laboured; indeed, it was not until the lapse of ten days or more, when it at last became too severe any longer to flatter himself that it was not, that he would admit it. The same treatment as formerly was again tried, and with much the same result, the blisters perhaps affording more relief than before. In addition, blistering the spine was tried, but without the slightest effect. The tincture of aconite was likewise given internally in doses of g^{ts}. v., three times daily, and certainly for a time with very marked benefit; but the effects produced by it on his general health, even in diminished doses, were so injurious that we were obliged to discontinue it. We next tried its local application, and likewise with benefit to the local affection; but it still exerted the same prejudicial effect upon the general health, again obliging us to abandon its use. In consequence of the relief afforded by the discharge produced by the blisters, I was induced to try the effect of a seton, and one was accordingly passed through the anterior part of the stump. After this had produced pretty free suppuration, the pain began to abate, and the patient remained for about a fortnight much freer from it than he had been under any other form of treatment. This, however, likewise began to lose its influence; and finally, as it appeared altogether to have lost it, it was removed by the patient himself.

"The patient is now in very much the same state, in so far as the neuralgia of the stump is concerned, as when he entered the hospital, but certainly not suffering so severely from the pain as immediately before the performance of the operation, although I have reason to fear that in time he may.

"I should have mentioned that the pain at present does not involve the whole surface of the stump as formerly, it being confined in a great measure to its outer and posterior part, and likewise, that it is produced by pressure over the whole extent of the sciatic nerve, the muscles at the same time being thrown into violent spasmodic action.

"Cases of irritable stump are fortunately not of very common occurrence, and are perhaps not so frequently met with as formerly, a circumstance which has been attributed to the improvements which the operation of amputation has undergone in modern times. They are mentioned by Mr. Liston as being more frequently met with after amputations of the forearm and arm than any other; this may be correct, but I have myself seen them more frequently perhaps in amputations below the knee. The pain in different cases varies in extent; it may involve the whole circumference of the stump, it may affect only a particular spot over the extremity of the nerve, or it may extend, as in the case I have related, along its whole course. The period after the operation at which the pain may occur varies much. Thus in the man Rice it commenced about six weeks afterwards; in a man upon whom Mr. Mayo had operated, it began about eighteen months after the amputation; and in another, whose leg had been removed by Sir B. Brodie, it did not make its appearance until after the lapse of seven years.

"In some cases the irritability of the stump may depend upon merely local causes, but in others again there would appear to be, as has been said, a constitutional and innate tendency giving rise to it. The extremity of every nerve after amputation swells into a bulb of greater or less size, which possesses considerable firmness, being sometimes almost cartilaginous in its structure. It was at one time thought that the mere existence of these bulbous swellings was sufficient to account for the occurrence of the pain; this, however, is far from being the case, as we not unfrequently find these tumours of very large size in stumps which had never been the seat of uneasy sensations; and on the other hand, they are sometimes comparatively small in cases in which, as in the present case, great irritability had existed. Should these swellings, however, be involved in the cicatrix near the surface, or by its contraction, as suggested by Mr. Lawrence, be pressed against the sawn end of the bone, then irritability of the stump is extremely likely to follow. These conditions of the nerve, with perhaps, in some cases, a degree of chronic inflammation of its proper tissues, or its neurilemma, are, it is generally allowed, I believe, the most frequent causes of those cases of irritability of the stump which are local in their origin, and are the only ones, I would say, which can be permanently relieved, either by a secondary amputation, or by excision of the extremity of the nerve, these being the operations recommended in such cases. The latter operation is of course to be preferred in those cases in which the symptoms are 'clearly attributable to an affection of one nerve only. That in certain cases the pain is dependent upon purely local causes, is fully established by the complete and permanent relief which has followed either the one or other of these operations, although, it must be allowed, in some of the recorded cases it would have been well had they been watched for a longer period than they appear to have been. There is no limit, we have seen, to the time after which the pain may occur after a primary amputation, and as little is there after the secondary operation. In the case I have recorded, for instance, the patient might have been dismissed the hospital, and regarded as cured, had I not, from a suspicion I entertained as to the ultimate result, detained the man much longer than was required by the existing state of matters; no return of the pain having taken place until after an interval of ten weeks.

"The cases which are to be included under the second head, those which are not dependent upon merely local causes, are fortunately comparatively rare; still, however, they are occasionally met with, and many of a very distressing character have been recorded. In these we have nothing in the formation of the stump to account for the occurrence of the pain; bulbous swellings, it is true, may exist on the ends of the nerves, but we have seen that the mere presence of these has nothing in itself to do with the existence of the pain; and in the cases which I would include under this head, there has been nothing in their condition to account for it, and, above all, the result of the treatment has shown that the symptoms did not depend upon merely local causes. In the case of Rice, the enlargements were smaller than usual, not implicated in the cicatrix, and not subjected to injurious pressure against the end of the bone. In two cases, related by Mr. Mayo, there was likewise no local cause to account for the occurrence of the pain.

36. *On Excision of the Head of the Femur.*—By Dr. Ed. Bonino.—In the April (1844) No. of the *Annales de la Chirurgie*, there is a memoir on this operation by M. Bonino, and in the same journal for May he has published the history of two additional cases, the account of which he had received subsequently to the publication of his first paper. The cases which he has collected amount to twelve in all, and we shall append an abstract of them, as, with the exception of two of them, they are but little known in this country.

The first case which he relates is the one by Mr. Whyte, of the Westminster Hospital, who, we believe, was the first who actually performed this operation. On the continent, surgeons appear to doubt that he actually performed the operation, believing that he limited himself to its proposal. That he did so, however, and with success, is well known in this country, as the case was published in the *London Medical Gazette*, in 1832, and the parts removed are still preserved in one of the London museums. We find, likewise, that the case is alluded to with approbation by his colleague, Mr. Guthrie, in his clinical lecture, in the following terms:—"Mr. Whyte, my colleague in this hospital, removed the head and neck of the thigh bone in a young person, by a very simple operation, after it had been dislocated by the same disease, ulceration of the cartilages and head of the bone, because it was evidently causing great irritation. The patient was a boy aged 14 years, and recovered, with a useful articulation, and without the limb being much shortened.

The second case which he gives is published in the *Gazette Médicale* for 1835, and occurred in the last expedition of the Russians against the Turks in 1829. The operation was performed by M. Oppenheim. The patient had been wounded by a ball in the left coxo-femoral articulation. On enlarging the wound, M. O. found that a comminuted fracture of the head of the bone existed, and that a portion of the upper border of the cotyloid cavity had been detached. He removed the injured parts with some difficulty, and the case held out very fair prospects of success until the seventeenth day, when the man was much alarmed by the occurrence of a case of plague in the ward, and the same evening intense fever supervened, and he died next day.

The third case in which the operation was performed was by M. Sentin, at the siege of Antwerp, in 1832, likewise for fracture by gun-shot wound of the head of the femur and trochanter major. For a few days the man did pretty well, but gangrene of the limb supervened, and he died on the ninth day.

The fourth case was by M. Schmalz, in Saxony, for caries of the head of the bone, which was already detached from the shaft. The boy was cured after a lapse of three years, and a new joint was formed by the trochanter major.

In the fifth case, the operation was performed by Mr. Hewson, of Dublin, for caries. The bone was divided above the trochanter minor, but the patient died three months afterwards from abscess in the pelvis, connected with disease of the cotyloid cavity.

The sixth case given was by Schlichting, in 1829. The patient was a young girl, æt. fifteen, and was cured in six weeks, being able to walk easily with a little halt.

The seventh case was by Köhleren Heine, of Wurtzburg, and was likewise successful.

The eighth case was by Kluge, and likewise for caries, but the patient died on the second day.

The ninth case was by Vogel, in a young girl affected with morbus coxarius, and was successful.

The tenth case was by MM. Jaeger and Textor, in a child of seven-and-a-half years, with fracture of the neck of the femur and abscess. It was unsuccessful, the patient dying on the twenty-third day.

The eleventh and twelfth cases were both by Textor, for disease of the upper part of the bone, but both were unsuccessful, the first dying the day after the operation, and the second on the fifty-third day.

In the remarks with which M. Bonino follows up the enumeration of these cases, he advocates strongly the propriety of the operation under certain circumstances, contrasting it with amputation of the extremity, the operation hitherto recommended, and giving it a decided preference, as we agree with him it ought to have.

We have here, in the twelve cases, five which succeeded perfectly, a favourable result which the most strenuous advocate for amputation could never look for; and if we were to put out of the question those cases in which the operation ought never to have been performed, and of these there are several, this practice would of course contrast still more favourably with the other. When we consider, in addition, the fact that the limb in all the cases has been left in a state well adapted for all the ordinary purposes of progression, &c., we conceive that the two operations will scarcely bear comparison.

We find that our latest writers on military surgery speak highly in favour of the operation. Mr. Guthrie, in his clinical lectures, speaks thus: "I have not done this operation on a living man, but *you must do it*, and I am sure that in the end you will succeed. You ought not to be allowed to take out a limb at the top joint, unless the head and neck of the thigh bone are injured; and you ought not to take it out if they are, unless the shaft of the thigh bone is irreparably injured also." Sir G. Ballingall, in his Outlines of Military Surgery, says, "The hazardous character of wounds involving the hip-joint is well known to every experienced surgeon, and the removal of the thigh at the hip-joint, recommended for some of these wounds, is an operation which no one can contemplate with any sanguine hopes of success. The experience of the excision of the head of the femur in cases of caries is not extensive, but it appears to me to be encouraging; and since I have become familiar with the excision of other joints, I have frequently reflected upon the possibility of substituting the operation of excision for that of amputation at the hip-joint, in some of those cases of gun-shot wounds where the latter has been recommended. And I am now encouraged to speak with more confidence on this point from finding the operation advocated by one of the first authorities in military surgery, Mr. Guthrie, in his clinical lectures recently published." M. Bonino does not deny the fact that the operation is a very serious one; on the contrary, he admits that it is: but he very justly remarks that this is by no means a sufficient reason for rejecting it altogether. Serious operations are always authorized by the circumstances which demand them—they are only legitimately performed, in fact, in diseases which, if left to nature, inevitably lead to a fatal result. The severity of the operation is then, if we may so speak, proportioned to the serious nature of the affection which demands it.

In all these cases, then, in which any hope of recovery by surgical interference is offered, the surgeon has only the alternative of choosing between excision of the head of the bone and amputation at the articulation. The question then is not whether excision be a severe operation—this no one doubts—but whether it be less severe than amputation.

M. Bonino then proceeds to draw a comparison in detail between the two operations. We shall not follow him through that part of his paper; the result of his comparison we have already given.

The cases in which he recommends the section of the head of the bone are the following:

1*st*. Dislocation, with protrusion of the head of the bone through the soft parts, which it is found impossible to reduce.

2*d*. In gun-shot wounds involving the upper part of the bone.

3*d*. In caries of the upper part of the femur, whether primary or secondary.

In regard to the two first, the opinion of the profession appears to be very much at one, but in regard to the last there is still, and very naturally, much difference of opinion.

The great objection to interfering in cases of caries consists in the fact that the cotyloid cavity is very generally involved in the disease, and likewise in the difficulty, we might almost say impossibility, of saying when it is not. Any operation undertaken when this part is affected is worse than useless, as we only remove part of the disease, leaving behind, perhaps, the portion most likely to lead to a fatal result. Such indeed appears to have been the cause of death in some of those operated on.

M. Bonino appears to agree with those authors who believe that the head of the bone is first affected, and the cavity secondarily, and argues that if the affection of this part be not extensive, and being as it were the effect of the caries of the head of the bone, we might hope, having removed the cause, to see the diseased action in this part checked at its commencement. We cannot agree with M. B. in this, and are of opinion that if there be evidence of the cotyloid cavity being affected, that surgeon will best consult his own reputation and the good of his patient who declines interfering. We cannot conceive that the cautery, as recommended in such cases by Briat, or the gouge and mallet, by Moreau, would be of much avail. We ought in justice, however, to add, that in two of the cases related, the cotyloid cavity was unaffected, and that amongst the five successful cases, three were performed for caries involving the articulation.—*Northern Journ. of Med.*, Aug., 1844.

37. *Prognosis of Chancre with reference to the probabilities of secondary symptoms.*—M. Ricord gives the following conclusions relative to the chances of secondary symptoms after a primary sore, as the result of his extensive experience:

1*st*. Primary ulcer is the indispensable precedent of secondary syphilis; without chancre there can be no general infection, except in the rare case of hereditary disease.

2*d*. Simple non-indurated chancre and gangrenous chancre are very seldom, and only in exceptional cases, followed by secondary syphilis.

3*d*. Indurated chancre always gives rise to constitutional infection.

4*th*. The seat of chancre does not in the least degree influence the production of secondary symptoms. Provided the chancre be indurated, secondary disorder is as common and as constant after sores of the mouth, hand, nose, or foot, as after chancres of the penis.

5*th*. The size of a chancre, the number of sores a person is affected with do not increase his chances of general infection, always provided none be indurated.

6*th*. If the primary sore be destroyed during the six first days of its existence, no secondary symptoms will follow.

7*th*. If six months elapse after the cure of a chancre (no mercury having been exhibited), without the appearance of secondary eruptions, all fear of constitutional symptoms may be laid aside.—*Prov. Med. and Surg. Journ.*, Oct., 1843.

38. *Iliac Abscess.*—The following interesting paper on this subject was read to the Surgical Society of Ireland (Nov. 23, 1844), by Dr. Hargrave. Much as the profession is indebted to Dupuytren, the observations of Husson, Dance, and others, as to the progress and treatment of what he has termed iliac abscess, it is a subject not yet exhausted, and one which is open to a difference of opinion as to the treatment of it in a particular stage—namely, when matter has fully formed, whether it is better to permit it to break by the unaided efforts of

the system, or by a timely puncture to save the patient considerable suffering, sometimes life, sometimes the formation of a very loathsome affection—artificial anus.

The French surgeon advocates the practice of leaving it to the efforts of nature, and not to meddle with it, so as to favour its bursting into the colon, rectum, or bladder, and so evacuating its contents by these outlets, certainly the least offensive way to both patient and surgeon. Some are more inclined to adopt the opposite line of practice, to puncture it as soon as the coverings of the abscess are thinned to a certain extent, to prevent the possibility of symptoms which will sometimes follow when this affection is allowed to take its own course, when it will break in other directions than those mentioned by Dupuytren. High as the character of this able practitioner must be always held, there are instances in which we must act contrary to his injunctions, and evacuate the contents of the abscess by an incision, as the case which I am now about to bring before the society will testify. In October, 1842, I was called to see a lady, æt. 40, the mother of four children, whose condition was as follows: Some pain in the right iliac fossa, extending up the colon towards the liver, and passing over towards the epigastrium; not much augmented by pressure; tongue furred and coated; pulse 100; bowels regular. She was leeched at three different periods, both in the iliac fossa and hypochondrium; she also took small doses of blue pill with the ext. of taraxacum, which produced much alleviation of the symptoms, when diarrhœa supervened, caused by eating some grapes while taking the mercury: one week elapsed before it was checked, during which time pain again manifested itself in the regions already indicated, especially the iliac.

A blister was now applied over the iliac fossa with great relief to the pain, but commensurate with it a fulness was evident in this situation, and extending towards the corresponding lumbar region: she now began to complain of uneasiness along the inside of the thigh, extending to the knee, which soon amounted to *incessant* and *severe* pain, following the course of the anterior crural nerve, which nothing but full and repeated doses of the acetate of morphia could in any way relieve or palliate, as opiate liniments, poultices, and every variety of topical application failed to give any ease.

During her severe sufferings from this new seat of pain, the tumour in the iliac fossa increased in fullness, leaving no doubt as to its true character; the palliative treatment was pursued, and her patience and endurance put fully to the test under the expectation that the abscess might burst into the cœcum, and so be discharged through the large intestine as affording the most favourable termination to the disease. As no indication of this nature presented itself, and apprehensive if the abscess was permitted to become much larger, it might burrow down into the pelvis and open by the side of the anus, and not into the rectum, or might burst into the cavity of the peritoneum so as to make the case so serious as soon to compromise life, or might communicate not alone with the intestine, but also externally in the groin, it was determined, in consultation with Mr. M. Collis and Dr. Benson, to delay no longer, but to puncture it in the lumbar region, where it pointed in a very evident manner.

On Sunday, November 6th, a free perpendicular incision was made, and a large quantity of healthy pus was discharged—healthy as to all its physical characters except smell, being extremely fœtid; the wound was then united by adhesive plaster and bandage. On the following Wednesday the wound gave way, and a large quantity of matter flowed from it; pressure on the cœcal region caused an increased flow of it. From this day the abscess continued to discharge daily from three to four ounces of purulent matter of a healthy character except the odour. To support the system, in addition to nutritious diet, porter and claret, she took for some time the ioduretted syrup of iron in the fluid extract of sarsaparilla: this was alternated with the decoction of bark, and tincture in effervescence. By comparison of these two medicines, the latter was the most beneficial, and I may remark that in other instances I have found the Galenical preparations of bark more beneficial than any other medicine of the tonic class; she suffered occasionally from accumulations of mucus in the trachea. In order, if possible, to assist the parietes of the abscess to contract, graduated compression was made over the iliac fossa, which was obliged to be abandoned after the lapse of six days, the pressure and confinement of the bandage were so irksome to her It was more in compliance with the established rules of surgery I pursued this practice than from any great confidence I had in it, as the compression to be effective through the abdominal muscles and the numerous laminæ of fascia in this region must be so great as to try to the utmost the fortitude and endurance of any patient: it was consequently abandoned, and the cavity left to the efforts of the system to contract. From the time that it was opened till the end of December, no appearance of its diminishing in size was evident, but at this period a fullness began to be apparent over the brim of the pelvis, about midway between the anterior and posterior spines of the ileum; it slowly increased, and evidently, after some days, contained matter, which was evacuated by pressure, and then endeavoured to be prevented extending by graduated compression. Though every effort was made to prevent the extension of matter in this direction, it still, by a slow and unchecked progress, passed over the brim of the pelvis, and descended to the gluteal region. As this new symptom in the affection presented itself, it was satisfactory to perceive that the size of the abscess in its original site was diminishing, this being evident by firm pressure, in this region producing no effect on the discharge; also the prominence in this situation diminished to such an extent that the abdominal parietes, from being much distended above Poupart's ligament, became flat, and finally hollow. Œdema of the feet and legs, particularly the right, now made its appearance, at the same time freedom from pain along the course of the anterior crural nerve. The abscess continued to make its way slowly in the direction already referred to, in opposition to every effort made to stop its course. As no other means were evident to prevent its increasing in this direction, a free counter opening was made into the most depending and posterior part of the abscess, on the 1st of February, 1843, from which at least half a pint of healthy matter was discharged, still preserving its great fœtidity. I was again assisted by Mr. Collis. A poultice was then applied; the affection from this time showed a great tendency to assume a more healthy course; the discharge diminished daily, so that on the 15th of the month she was enabled to remove a few miles from town. No report from this date till the 26th of February, when it was noted that there was no discharge from the abscess, œdema gone from the right leg and foot, but increased in the opposite one, and presenting an erysipelatous blush, with pungent pain. The erysipelatous symptoms set in on the previous Thursday. I found her dusting the parts with powdered starch; all the functions natural.

℞. Pulv. hyd. c. creta, gr. v.;
—— Doveri, gr. ii.
Misce ut fiat pulvis, h. s. s.

In a few days the erysipelas had disappeared; she continued to improve till March 29th, when I was requested to see her, and learned that she had not been well for the last few days; "skin hot; some thirst; restless nights;" some fullness appearing where the abscess was first punctured, also in the right groin, with occasional pain extending down the thigh, taking the same course as it formerly did; she also experienced severe pain in momentary paroxysms darting from the right iliac region up to the liver. She had applied a bread and water poultice to the lumbar region; during its use the abscess re-opened and discharged a considerable quantity of reddish-coloured matter; great relief followed, with complete subsidence of the febrile symptoms. On my examination no matter could be pressed from it, and the swelling in the groin had much diminished in size. It was noted—Is this is a fresh abscess, or is it any part of the orignal one which has not been completely obliterated, which has been refilled, and burst through the opening which was made in November?

A month from this visit she was again attacked with slight febrile symptoms, attended with diarrhœa, a fresh collection of matter in the original situation of the abscess, which made its way through the original puncture, with attendant relief to all the constitutional symptoms.

From this period till June 2d, she continued in good health, when some constitutional disturbance again made its appearance, followed, as in the preceding instances, by a fresh collection of matter, also some indication of matter between the brim of the pelvis and the great trochanter; wound re-opened, and healthy pus in some quantity discharged.

June 7th, 1843.—The note of this case is as follows:—"All appearance of inflammation between the spine of the ileum and the great trochanter vanished; no pitting on pressure; very little discharge from the re-opened wound; no pain along the thigh; spirits good."

From this date up to the present time, making a period of sixteen months, this lady suffers from an occasional attack of febricula, always the precursor of a fresh formation of matter, which, on flowing away through one of the punctures made by me, always terminates the febrile invasion and gives the usual relief. Solicitous to ascertain if any diseased bone maintains this condition of the abscess, I have carefully examined the sinuses with a probe, but cannot detect any disease; neither is the pus characteristic of such a disease. Her general health, with the exceptions mentioned, is good; her mind active, and she is capable of taking moderate walking exercise.

Two years have now elapsed since this abscess was first opened, and it still has every tendency to continue discharging, with no attempt at obliteration.

What has been the exciting cause of this abscess? Has it been lodgments in the cœcum, producing irritation in the sub-mucous cellular tissue, or is it dependent on disease of the mucous membrane itself? From previous attendances on her I am more inclined to the latter opinion for explaining the formation of it, as some years previously I attended her for simple stricture of the rectum, which was completely relieved by the bougie.

Some points connected with this affection require to be cleared up—namely, its greater frequency in the right than the left iliac fossa; its being more frequent in men than women; and in summer and autumn. May depend on lesion of the mucous membrane. Resolution often obtained—eleven out of sixteen cases (Meiniere.) When the abscess opens into the intestine, fœcal matters never pass into it (Dupuytren). 1st. It empties itself gradually; the abdominal pressure preventing it forming a cavity. 2d. Obliquity of the opening. 3d. The flaccid intestine forms a valve.

Dr. Kennedy observed that most probably the cause of iliac abscess being so much more frequent on the right than the left side, was owing to the situation of the cœcum and vermiform appendix. Any irritation in these parts, as ulceration of the mucous membrane, was sufficient to cause abscess here. He had seen a good many examples of this sort. As to the question of opening abscesses of this kind, he believed that as soon as there was external evidence of fluctuation it should be done; otherwise the matter spread and produced consequences of the most serious kind. He had seen fatal constipation brought on by abscess in this locality; but the very worst of these cases were not to be given up as hopeless. In Mr. Ferrall's admirable paper on the subject, one or two cases were detailed where recovery took place under the most unpromising circumstances. Dr. Burne, of London, had added much to our knowledge of this subject.—*Dub. Med. Press*, Dec. 11, 1844.

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39. *Aneurism of the Right Subclavian Artery,—attempt to pass a ligature on arteria innominata.*—Mr. Oldfield communicated to the Physical Society of Guy's Hospital, the particulars of a case of aneurism of the right subclavian artery, occurring in a young woman, and upon whom an operation had been commenced by Mr. Key, for the purpose of either passing a ligature around the arteria innominata, or of tying both the subclavian and the carotid, near their common origin, as the state of the parts when disclosed by the knife might render most advisable.

Mr. Key was induced to attempt this operation as a last resource for the well-doing of the patient, because no clear indications of aneurismal disease of the arteria innominata or arch of the aorta were discoverable,—an opinion in which the stethoscopic authorities of the hospital coincided, except Dr. Hughes, who pronounced the arteria innominata implicated. After completing the steps of the operation required for reaching the arteria innominata, Mr. Key found it impossible to surround that vessel with a ligature, in consequence of a tumour connected with it; and the attempt was finally abandoned. The operation lasted one hour; and the wound went on so favourably, that it had become nearly filled with granulations at the time of the patient's death, which took place the 23d day after, when she sank with symptoms of pulmonary distress and exhaustion. Mr. Oldfield read a minute account of the symptoms, steps of the operation and after-treatment; and also exhibited the diseased parts to the society. The tumour, which prevented the completion of the operation as originally intended, was found to consist of an aneurismal enlargement of the upper part of the arteria innominata and origin of the subclavian artery, the carotid artery being comparatively healthy. This enlargement, together with a mass of diseased glands, had pressed on the right bronchus, into which it would probably have opened, had life been prolonged; it had, by its pressure, been the immediate occasion of the fatal termination.

The paper concluded with some judicious remarks on the difficulty of diagnosis in this peculiar and very interesting case, and on the superior applicability of the distal operation in cases of aneurism of the innominata in general, which Mr. Oldfield contended was proved by the recorded cases of success elsewhere, although the distal operation for aneurism had not as yet been regarded in a favourable light at Guy's Hospital.—*Lond. Med. Gaz.*, Dec., 1844.

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40. *Observations on Cleft Palate and on Staphyloraphy.* By Wm. Fergusson, Esq., Professor of Surgery; read before the Royal Medical and Chirurgical Society, Dec. 10, 1844.—The author commences his paper by making some general remarks on the operation for cleft palate, performed in this country and abroad. He then proceeds to give a detailed account of a dissection which he had the opportunity of making of the muscles which operate upon the soft palate, in an individual who had both the velum, and a portion of the hard palate, cleft. This description is followed by an examination of the opinions of different eminent physiologists concerning the motions of the velum palati, and its arches, during the acts of deglutition; and by the author stating his own views as to the actions of the various muscles when the palate is cleft. This part of the subject he further illustrates by describing four different states in which the flaps on each side may be seen upon looking into the mouth of a person who has split palate, and irritating them in different ways. By pursuing this course of anatomical and physiological inquiry, he arrives at the following conclusions: 1. That the flaps are slightly drawn upwards, and to the sides, when the levator palati contracts. 2. That when the levator palati, and palato-pharyngeus, act strongly and together, the flaps are so forcibly drawn from the mesial gap, that they can scarcely be distinguished from the sides of the pharynx. 3. That the flaps are forced together, and the edges come into contact, when the superior constrictor muscle contracts during the act of deglutition. 4. That the circumflexus palati possesses but a feeble power over the flaps. Lastly. The fibres of the palato glossus were very imperfectly developed in the specimen in his possession. The chief object of his paper is to communicate a novel plan of operating in staphyloraphy, founded on the above investigations, and which he has put in practice, with most satisfactory results, in two cases, during the last twelve months. The principle of his new proposal is to divide those muscles of the palate which have the effect of drawing the flaps from each other, and widening the gap between them when they contract; so that the stretched velum may be in a state of repose, and the pared edges may not be pulled asunder by any convulsive action of the parts, during the process of union. In other words, he advises, as an important accessory to

the operation of staphyloraphy, the division of the levator palati and palato-pharyngeus muscles, and, if requisite, the palato-glossus. In bringing forward this plan, he reviews the different modes of operating which have been produced by numerous distinguished surgeons who have written on the subject: and he concludes by entering into several minute details regarding the steps in his own operation, and by describing the particular forms of instruments which he had found best adapted for his proceedings.

The preparation of cleft palate, a dissection of the parts in the usual condition of the throat, a variety of diagrams, instruments, &c., were on the table, to illustrate the views of the author.

The president inquired if any member present had dissected a cleft palate, and directed attention to the dissection of Mr. Fergusson.

Mr. Cæsar Hawkins inquired the ages of the patients operated on, and whether the hard palate, as well as the soft, were involved in the deformity.

Mr. Fergusson replied, that in his operations he had been guided by a rule generally followed in these cases by surgeons; he had not operated until the patients were of an adult age. In both cases, little of the hard palate was involved in the fissure. Such a condition, he thought, made little difference regarding the proposed operation, for, as he had pointed out, the motor power influenced only the soft tissues; should Warren's operation be resorted to, it was quite clear that the tissues dissected from the bones would be subjected to no motory influence. He pointed to some casts before the society, which exhibited the fissure in the bony palate, and remarked, that an observation of these would show that when the soft tissues were dissected, and brought downwards, they would easily meet in the mesial line.

The president pointed out the chief features and novelties in Mr. Fergusson's paper, as consisting in the explanation given of the mode in which persons with fissured palate were able to swallow food without its passing into the nostrils, and the division of the motor muscles of the palate. Did the silence of the members on the subject indicate that they were unprepared to discuss such novelties?

Sir G. Lefevre was sorry that so important a paper appeared to excite so little discussion. He inquired of the author the length of time that elapsed before the fissure was quite closed, and how far the operation had influenced speech?

Mr. Fergusson had referred to the two cases in his paper rather with the view of producing living evidence respecting his operation, than for the purpose of entering into a minute history of the cases. He would, however, briefly describe these cases to the society. One of the patients was a youth, about seventeen years of age, who had a congenital defect of the palate. He was anxious to make his way in the world, and was desirous, as he had interest, to go into the army, but his deformity rendered his success almost hopeless. When he (Mr. F.) first saw the case, the gap was so extensive, that he was not sanguine as to the success of an operation in producing union, or improving the voice, for experience had convinced him that the latter was scarcely to be more than hoped for. The patient, however, was willing to abide the result of any operative procedure, and the operation described in the paper had accordingly been performed. A part of the gap had opened again, but a second operation was some months afterwards performed, and the success had been complete. The tones, and mode of articulation, appeared at first to be somewhat improved, but soon returned to their former imperfection, and so remained until he placed himself under a teacher of elocution, which he did eight months after the operation. Under the tuition of Mr. Hunt, in a very brief period, the improvement had been truly astonishing, and he (Mr. F.) had no doubt would eventually be such as would enable him to enter the army. The second case was that of a young lady, the same age as the former patient, and who seldom or never attempted to speak in company, so conscious was she of the miserable defect under which she laboured. She cheerfully assented to the operation, which in her case had been successful. There still, however, remained, in this case, a slight aperture anteriorly; this, however, would doubtless soon be closed. Surgeons acquainted with these operations knew well that they occasionally required repetition, and that apertures would sometimes remain for a considerable period afterwards, until closed by the use of the cautery, or of caustic. It might be said that this patient required to be taught to speak, and this, he thought, she would soon do, if placed under a good teacher of elocution. He had, when Warren and Müller were in this country, inquired of these distinguished surgeons their experience respecting the influence of the operation for cleft palate on the voice, and both these gentlemen replied that they had reason in some cases to be disappointed. A few days after the operation would determine its success, for if, after the stitches were removed at the expiration of six to ten days, the parts kept together, a perfect cure was pretty certain. He referred to a case lately related to him by Sir B. Brodie, in which, after the operation, no improvement in articulation took place until the patient had taken lessons in elocution. He afterwards spoke tolerably well, and obtained a commission in the army.

Dr. Gregory inquired if any mechanical apparatus had been resorted to before the operation in the cases just related; if so, what was its effect? and what was the experience of the author of the paper respecting mechanical contrivances in cleft palate generally?

Mr. Partridge inquired if there were any difficulty in elevating the soft palate, or in deglutition, after the operation?

Mr. Fergusson replied that in the cases he had just related, no kind of apparatus had been used before the operation. He had no experience on this point; Mr. Partridge's question involved a controversial point, for the most eminent physiologists differed with respect to the action and condition of the soft velum during the act of deglutition. He, himself, considered that there was little motion in it during that act. In a patient whom he had the longest opportunity of observing, the motions were much the same as in the natural palate. He could observe the action of the levator palati as readily as in the well-formed structure. He had no doubt that the levator palati had formed new adhesions to the velum. It was worth noticing, that in the early attempt at deglutition succeeding the operation, the morsel was slipped back in the most gentle manner, which was attributable to the tender state of the parts, and the cautions of the surgeon; in addition to these the soft palate was at first so hardened and thickened, that it was used with difficulty, but in a short time it assumed a more natural condition, and the patient could then both swallow and speak with great facility.

Mr. Shaw observed that the author had laid little stress on the action of the circumflexus or tensor palati, in his paper; this might be supposed by some to be a weak point, as the action of this muscle might tend to the separation of the sides of the wound. Much reflection on this subject, however, had led him to attach little importance to the effects of this muscle on the soft palate.

Mr. Fergusson had mentioned in his paper his opinion that the levator palati exerted but small influence over the movable parts. He had, at one time, held a contrary opinion, but observation had convinced him the influence of this muscle would be unlikely to interfere with the success of an operation. He was convinced on this point, by the shape, development, and course of the muscle. He referred, in confirmation of this opinion, to a dissection of the muscle in the natural state. The name tensor, implied a power which the muscle did not really possess; the motion was scarcely to be discovered.

Mr. Partridge remarked that the tensor palati was very small in the preparation which had been exhibited.

Mr. Fergusson was of a different opinion, for he thought the muscle larger than usual, and that its action was more apparent in the cleft than in the natural palate.—*Ibid.*, 20 Dec., 1844.

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41. *Rare case of Milk Cyst in the Breast.*—A young woman, aged 26, of good constitution, was admitted into hospital, under the care of M. Jobert, on account

of a tumour of the right breast: it had attained the size of the head of a child nine months old, was globular, without change of colour in the superincumbent skin, was without pain, resistant, hardly compressible, but evidently fluctuating, yielding the sensation of a vessel very full of fluid; it was movable at the base, and could even be somewhat displaced under the integuments. The skin covering it was thin and flabby, rolling under the fingers, and yielding a sensation similar to that which would be produced by granular bodies situated below the cellular tissue; two large veins ran vertically over its surface. The tumour was situated exactly at the internal side of the nipple and mammary gland; it was pendulous, and in the course of its development had pushed the gland upwards and outwards; the latter, however, partially adhered to it. There was no transparency on examining it with a candle. On pressing the nipple, milk could be squeezed out; this, however, was also the case in the other breast, as the woman had had a child two months previously. The following is the patient's own statement regarding it:—She has had four children, and the tumour first appeared six years ago, after her first delivery; it was small at first, and on pressing it, milk appeared at the nipple, even a long period after the delivery. After her second confinement the tumour increased in size, as it did also after her two subsequent: pressure on the tumour always caused milk to escape by the nipple, so that from the period of her first confinement, the milk had never entirely disappeared from that breast. The tumour, however, acquired its greatest development only after the last delivery; at that period it was much larger than it is now, and was accompanied with a painful feeling of distension, which was only relieved by squeezing out the milk from the breast by means of repeated pressure; this, at the same time, caused the tumour to diminish in size. Such is the history of the disease. M. Jobert diagnosed a cyst. But no one suspected the nature of the fluid it contained. Previous to operating, M. Jobert made a small exploratory puncture by means of a trochar; to his astonishment there immediately followed a jet of pure milk, a glassful was allowed to escape, which was afterwards sent to the laboratory of the Faculty for analysis. It was inodorous, and had the slight opaline tint of healthy milk. As M. J. had no expectation of being able to cure the tumour by evacuating the fluid and injecting irritating substances into the cyst, owing to the enormous size of the pouch, which rendered it impossible that its thin and flabby parietes would contract sufficiently to adhere, and as the patient urgently requested to be relieved of it in the speediest way, he determined to remove it by operation. By means of a bistoury he made an oval incision, and dissected out the flap so as to remove part of the loose superabundant tissue; he then opened the cyst, and nearly a pint of milk escaped; the entire removal of the pouch was accomplished by dissection by means of scissors, bistoury, and forceps. The cyst adhered, at its upper and external part, to the mammary gland; it had also formed attachments to some small neighbouring tumours; the whole of the diseased parts were completely dissected and removed. The wound having been washed, and several small vessels tied, milk was perceived to escape from a point at the bottom of the wound corresponding to the mammary gland. It proceeded from some lactiferous vessels which communicated with the cyst, and had been divided. The wound united by the first intention.

On subsequent dissection of the parts, several remarkable as well as unexpected conditions were found. The principal cyst was of large size, thin, and polished, like serous cysts in general; in its centre, there was an ulcerated spot of the size of half-a-crown, with raised irregular edges; its base appeared somewhat infiltrated with milk. On examining attentively this serous pouch, several small openings were discovered; through one of these a probe was passed, which led to a group of granulations in the mammary gland which had been removed along with the cyst. This passage was discovered to be an enlarged lactiferous vessel, and there were many others. It was now evident that several enlarged and hypertrophied lactiferous vessels proceeded from various granular groups of the mammary gland, and communicated with the cyst; and that through them, the milk which had been met with had been poured. This also satisfactorily explained how milk should have escaped from the nipple when pressure was made on the tumour, and its diminution in size. The lateral cysts were three or four in number; one of them had attained the size of an egg, the others that of a nut; they all contained milk, and communicated with groups of granulations in the gland.

Mention has been made of milk cysts in the breast in several works, and also by Dupuytren in his lectures. But a general description of these tumours has nowhere been given, and the details of individual cases which we meet with are usually so slight, that we may safely assert that the nature of these cysts has yet to be studied. A paper on this subject, however, has appeared from the hand of the celebrated Sir Benjamin Brodie, of London. The general description given by Sir B., is entirely confirmed by the case of M. Jobert. It is impossible, indeed, after mature deliberation, to doubt that these cysts owe their origin to a dilatation of some of the lactiferous vessels, and that the ulceration met with in the case of M. J., was but the commencement of a fungous process which occurs at a certain period of the disease, exhibited by the facts stated by Sir Benjamin. According to the latter, it is absolutely necessary to remove the whole breast; but it is probable that, in the case of M. J., a cure may be effected by the removal of the cyst alone. It remains to be seen, however, whether the small tubes yielding milk at the bottom of the wound will be obliterated, or whether they will again produce a new cyst; the result of the case alone will show.—*L. & Ed. Monthly Journ. Med. Sci.*, Dec., 1844, from *Annales de Thérapeutique*, Sept., 1844.

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42. *Case of Fungus from the Synovial Capsule of the Knee, under the care of* M. GERDY, *treated by compression.*—The subject of this case is a young man, aged 30, of a lymphatic and deteriorated constitution. On the internal surface of the knee there is an ulcer of the size of the palm of the hand, from whose base has sprung an ill-conditioned fungus of the size of half an orange, and which, according to M. Gerdy, originates from the external surface of the synovial capsule, and has no communication with the joint. The articular movements are quite free, and cause no discharge of pus, as would be the case if the disease communicated with the synovial cavity. In M. Gerdy's opinion this is the best test that can be employed for the purpose of ascertaining if a tumour containing fluid, and which has been opened, communicates with the neighbouring articulation or not. The patient has an affection of the same nature on the dorsal surface of the wrist. The fungus neither appears cancerous, nor has any tendency to bleed: at the knee, as well as at the wrist, it is composed of an enormous number of granulations of the size of a nut, having a grayish colour, and of a soft dirty aspect, and yielding a large quantity of fetid pus. The means employed by M. Gerdy for the treatment of this affection are, compression by means of strips of adhesive plaster, and under the influence of these, and rest, the disease is improving. M. Gerdy has met with one other case of this rare disease; it was situate at the elbow-joint, and occurred in an individual in whom he had amputated the leg, but who refused to submit to the loss of his arm: it was treated by compression, and a cure followed, but there was anchylosis of the joint.

In a pathological point of view this is a rare affection; indeed, it is the first time we have met with it. An attentive examination of the joint leads to the idea that there is hypertrophy of the whole synovial capsule, with tendency to fungus from its external surface. It appears to us that the affection may be compared to certain non-cancerous fungi which occur on the mucous membrane of the alveolar processes, and which have been denominated epuli. Its coexistence at the knee and wrist at one and the same time, and the deteriorated state of the constitution, would lead us to suspect that it originates from some peculiar diathesis. There are, however, no distinct signs of scrofula, although the patient has a pale cachectic look; but this appearance is, perhaps, an effect of the local disease itself. However this may be, M. Gerdy has commenced the treatment by compression, to which he proposes to add the internal use of the iodide of potassium. A marked diminution in the size of the vegetations has already taken place under the use of the compression alone.—*Ibid.* from *Ib.*

43. *Chloride of Lime in Gonorrhœa.* (*Prov. Med. Journ.*, Dec. 18, 1844.)—Dr. Radclyffe Hall observes, that in the treatment of diseases attended with contagious discharge, it is desirable not only to lessen the inflammatory action which causes the secretion, but at the same time to alter the contagious character of the matter secreted, and as fulfilling these indications he recommends the chloride of lime. In the first stage of gonorrhœa, he adds, before the discharge has become completely puriform or the scalding great, a single injection of about two fluidrachms of a saturated solution in water, will always put a stop to the disease, either in a first or subsequent clap. In the second stage, when there is a considerable discharge of pus and more pain, several injections are required. In gleet, provided the discharge be not kept up by some structural change in the urethra, the strong injection is likewise useful, but not to so striking an extent. The effects of injecting the strong solution, are sharp pain, and often erection for the moment, slight puffiness and eversion of the orifice of the urethra, and tenderness on pressure, and a feeling of unusual firmness for two or three inches down the corpus spongiosum, where these did not already exist. In a short time, the pain subsides, and in a quarter or half an hour, a serous discharge issues from the mouth of the urethra. Occasionally, œdema of the prepuce, with its attendant sense of numbness in the part, ensues. There is scalding, but usually not very great, for the first two or three micturitions after the injection; and what there is may be in a great measure obviated by injecting a little almond oil just before attempting to make water. In about eighteen or twenty-four hours, the lips of the urethra are found separated by a clot of firm yellow pus; this is removed by the stream of urine, and may or may not form a second time.

If the disease was only in its first stage, it is now cured; but if more established, the injection will have to be repeated, as often as the peculiar tingling sensation and gonorrhœal secretion re-appear. In this case, the small firm clot is not formed, but in its stead, there is a discharge of more fluid pus. The number of injections, and consequently the length of time required for cure, depend chiefly upon the anterior duration of the disease. In the acute stage of a first attack, where both pain and discharge are considerable, Dr. H. has never seen any harm from employing the strong injection, using, at the same time, mild aperients, tartarized antimony and opium internally, enjoining perfect rest and abstinence, and frequent washing out of the urethra with some weak astringent solution, as the solution of acetate of lead and sulphate of zinc combined so as mutually to decompose each other. On the contrary, the course of the disease has appeared to be materially shortened. When the inflammation is subacute, but the discharge still purulent, as in persons habituated to claps, or, after a certain period, in a first attack, copaiba or cubebs have been given in the usual way, but the injection has manifestly been of service. In gleet, a single injection has sometimes led to a cure after the failure of almost all other kinds of injection; more frequently, several injections have been required; in a few instances the chloride has entirely failed, but in these cases, no other form of injection subsequently tried has succeeded, and the disease has been cured by the use of bougies, or it has lasted until a fresh clap was contracted, or it has gradually worn out as the patient's general health improved.

44. *Radical cure of Hydrocele.*—Dr. A. A. Harvey has successfully employed the following plan of curing hydrocele:—" First, discharge the fluid with a trochar, or pocket lancet, and then apply a warm vinegar poultice all over the scrotum, in order to bring on inflammation, which generally takes place in a few hours, and becomes painful. When sufficient inflammation has been excited, remove the vinegar poultice, and apply a bread and milk poultice. In a short time, the pain and inflammation generally subside, and the cure is complete. Give a few smart doses of purgative medicine."—*Lancet*, Jan. 11, 1845.

45. *Fistula in Ano.*—Dr. A. A. **Harvey** states that blind external fistula in ano can often be cured without cutting, by injecting alcohol the whole length of the sinus, three or four times a-day, until it brings on inflammation; when that takes place, the cure is generally completed in a short time.—*Ibid.*

OPHTHALMOLOGY.

46. *Influence of Belladonna on the Iris, undiminished by long use.*—Dr. **Jacob** communicated to the Surgical Society of Ireland a paper by Dr. **Martin**, the purport of which was to show how the influence of the extract of belladonna on the pupil remained undiminished after the continuance of its application even for a series of years, its effects being as manifest after half a dozen years' application as the day it was commenced. By its employment he himself had afforded a very useful amount of vision to persons who had extensive opacities of the cornea; in fact, the efficacy of belladonna as a means of dilating the pupil, was a matter of daily observation, and this property might be looked on as a caracteristic of this narcotic. In cases where the operation for artificial pupil would be a matter of risk, the daily use of the extract is a remedy of great value. He also finds it extremely useful in cases of iritis, in which adhesions to the capsule of the crystalline lens exist, with some exceptions, in which he suspects its failure is to be attributed to the state of the lens or retina. He also finds it useful in central opacities of the lens and its capsule. A lady had come to him to have an operation performed who had distinct white cataracts in both eyes, and having applied the belladonna, he called on her next morning for the purpose of performing the operation, and found her looking out of the window. The lens in that case was perfectly transparent round the central nucleus. She lived a long time after, and could see very satisfactorily by means of the continued use of the belladonna, and without the operation. In the other eye there was a complete cataract, which he had removed, and made a good job of. Numerous instances could be found all over Ireland where specks remained on the cornea after destructive inflammation, and in which, if the pupil could be dilated, a great degree of comfort would be derived. In these cases, however, we could not always be certain of success, for the iris is sometimes found so entangled that no remedy remains but the operation for artificial pupil, and these are the cases in which the operation succeeds. As to the mode of using the belladonna, he thought the most convenient method was that of solution, the extract being rubbed down in such quantity as to allow all the heavier and insoluble matter to fall to the bottom; a little spirit might then be added to remove any coagulable matter, and prevent the solution from spoiling. A very small quantity dropped into the eye would dilate the pupil, though it is the custom with many to waste a large quantity in daubing the eyelid or brow, which is quite unnecessary, except in cases where an inflammatory condition of the conjunctiva exists to prevent its internal application. Dr. Jacob then read the following communication from Mr. Martin:—"James White, a labouring man, came under my care about six years ago, being then quite blind, after a very severe and neglected attack of purulent ophthalmia, which had caused the evacuation of the humours of the left eye, and covered the two lower thirds of the cornea of the right eye with a dense albugo. As the upper edge of this did not appear to be so opaque as the centre, I expected that the diseased surface would, after some time, diminish in extent, and happily I was not disappointed, for after persisting for six months in the use of gentle stimulants and astringents, (the solut. alum. sat. alternated with the vinum opii,) I had the satisfaction of finding the upper and outer edge of the opacity so reduced as to correspond with the edge of the pupil, which was found free and the iris sound. He now had slight vision, barely sufficient to enable him to make his way without a guide. At this period he commenced the use of diluted extract of belladonna, which, by expanding the pupil, at once enabled him to

see distinctly before him, and do light labouring work. The opacity remains unaltered since he commenced the use of the belladonna, so that he has been obliged to resort daily to it for the last five years, and it apparently acts with as much energy now as on the first day."

Dr. Jacob stated that he had never observed any diminution of sensibility in the retina occasioned by its use. Persons were in the habit of coming to him after a lapse of years to see if the belladonna were as active as before, and he had always found that it was.—*Dublin Medical Press*, Jan. 8th, 1845.

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47. *Peculiar appearance occurring in a Cataract.*—(*Dub. Med. Press*, Dec. 11, 1844.) Prof. Jacob, in a communication made to the Surgical Society of Ireland, Nov. 23, 1844, observed that, "Doubts had latterly arisen as to the vital connection of the crystalline lens with the other parts of the eye, and attempts had been made to prove that it had no union with its capsule, thus leading to the notion that it was a secreted matter. He would not then enter into that question, but would merely observe that if these assertions were well founded, the crystalline would furnish the only instance of an organized body of essential use being found in the centre of living parts without any vascular connection with them, and would thus constitute an anomaly in anatomy and physiology. He had himself many years ago endeavoured to disprove this notion of the crystalline lens being separated from its capsule. From the days of Morgagni to the present time, it had been supposed by many that the lens was surrounded by a fluid separating it from its capsule; but on looking into Morgagni's work, he could plainly perceive that that author did not mean to assert that such was the natural condition of the parts, and this view of the matter had been fully discussed in an essay published some time since in the Medico-Chirurgical Transactions. Awkward persons dissecting the eye twenty-four or forty-eight hours after death, when incipient putrefaction had set in, were unable to detect the connection between these parts; but he had himself demonstrated fifty times over, the adhesion existing between the back of the lens and its capsule, and therefore there was no reason to doubt that this body derived its nutrition from the same sources that the other parts of the body derived theirs. It was alleged that there were no visible vessels in the lens, and that it could not be injected, but this was no proof of their absence; they were all well aware that when the transparent cornea became inflamed, as in scrofulous corneitis it appeared filled with arteries and veins carrying red blood, and he could not understand how these should appear and disappear unless they naturally existed there. He was strengthened in this view by the plate in Albinus's Annotationes Academicæ, in which a representation was given of the lens injected with red vessels. He made these introductory remarks as a kind of apology for bringing the present case before the society. The youngest man present was familiar with the various forms of cataract described in books, their names being derived from the consistence and colour. That to which he was about to call their attention had occurred in a boy on whom he had operated about five weeks since; he had received a blow on the eye some years before which had cut the cornea and injured the iris, the black membrane of the aqueous humour on the back of the iris being torn from it and dragged in front. This led to cataract, with irregular pupil; it was evidently an unsound eye, and was one of those cases to which he gave the chance of an operation without any sanguine hopes as to the result. He had broken up the lens, which was soft and pulpy, and thrown the fragments into the anterior chamber in the usual manner. In about a week a large portion of the pulpy matter had been dissolved, but mixed up with the remainder were a number of small brilliant scales, resembling particles of gold leaf, perhaps not of so metallic a lustre. but having more the appearance of mica. He called the attention of the students to them at the time, and though they had since then partially disappeared, they were now, in the fifth week since the operation, distinctly visible, moving about in the anterior chamber. They are now fast dissolving, and in a week or ten days will probably have altogether disappeared. He would not offer any conjecture as to the

nature of these scales, if he had not recollected a case which had formerly come under his notice. It was an instance of cataract, produced, as well as he recollected, by injury also. On breaking up the lens, he was surprised to perceive it fall into a pulp, in the anterior chamber, having the appearance of oil altered by cold. Some days afterwards on examining it with a lens of 2½ inch focus, a number of needle-shaped crystals or spiculæ appeared moving about in the anterior chamber, each about a line in length. Knowing that the crystalline lens was composed of delicate fibres, he at first imagined that these might be some fragments of it, but all doubts on that point were removed when he discovered that after some days they were not dissolved, but remained even more distinctly visible as needle-form crystals than before, and he was led to consider whether they might not have been crystals of some of the phosphates of lime, of the same nature as the metallic scales he had been just describing. He thought it very probable that these were crystals of some phosphate of lime, as chemists, in speaking of that substance, described both crystalline needles and crystalline laminæ. Some persons might allege that these were merely fibres of the crystalline lens, but his objection to that was, that being so, they would have dissolved in a few days, while both the scales and needles to which he had alluded continued undissolved in the chamber for many weeks. It might also be objected, that in the natural or healthy condition of the body no crystalline deposits took place, unless the enamel of the teeth and porcelanous shells might be adduced as instances of such; but whatever objections might be urged against such an occurrence in health, he would say that they were applicable to diseased conditions of the body. [Dr. Jacob here exhibited a drawing of another cataract upon which he had operated in 1839, the surface of which presented a brilliant metallic lustre, and the texture of which, it being capsular and free from injury, was remarkably tough and firm.] This he considered somewhat of the same character, but not so crystalline or calcareous. He was not aware that these appearances had been described already, but he should not be surprised if it were so; but his engagements did not permit him to search for such a fact in the immense mass of medical matter delivered by the press to the profession in the last few years; it would be like seeking for a needle in a bundle of straw. Other parts of the eye were subject to calcareous deposits, even the cornea had been found with gritty particles in it, and those osseous cups, generally described as ossifications of the retina, were not uncommon. Calcareous deposits in the body of the lens had been described by Mr. Wardrop and others, and such were frequently found in the eyes of horses blind from cataract for many years. Conversion of the capsule of the lens into a material resembling egg-shell was not very rare; all showing that there was no difficulty in admitting that phosphate of lime, or some similar deposit, was often made in the structures of the eye.

"Dr. Apjohn observed that though it might seem temerity in him to differ from Dr. Jacob on any question relating to the eye, he could not, after having attentively listened to his observations, acquiesce in the conclusion at which he had arrived. There was no doubt that calcareous concretions might form in the eye, as they did in various other parts of the body, and that those concretions were in the main composed of phosphate of lime. But the question to be decided was, whether those luminous and iridescent bodies, described by Dr. Jacob, were due to phospatic deposits in a crystalline condition, as suggested by him. Dr. A. could not adopt this opinion, seeing that the matters in question floated in the aqueous humour—a thing incompatible with a high specific gravity,—and never having observed crystals of phosphate of lime sufficiently thin to reflect the spectral colours. If, indeed, this latter condition were fulfilled, the phenomenon would be perfectly explained, for, as is well known to all persons having even a superficial acquaintance with optics, substances, whether organic or inorganic, will, like the soap-bubble, reflect the colours of the rainbow. That the appearances in question were due to a similar cause, he was quite convinced; but he differed from Dr. Jacob in believing that the iridescent colours described by him were due, not to thin laminæ of phosphatic crystals, but to shreds of the crystalline lens itself, reduced by the process of absorption to the necessary degree of tenuity. In fact, if these substances were of an inorganic nature, it was not very easy to understand how they could be absorbed; and in connection with this statement, and as arising out of it, he would take the liberty of asking Dr. Jacob whether he had a recollection of any cataract, including a calcareous deposition, which underwent a complete absorption? The answer to this question would, he (Dr. A.) conceived, throw much light on the question under discussion.

Dr. Jacob said he could not solve the question put by Dr. Apjohn, because, in cases of decided ossification of the lens, from the difficulty of their solution, extraction was always performed; but this he could say, that, from his experience of the solubility of matter of a much more refractory nature, if he did meet a cataract of such a nature, he would not be afraid to break up the lens, and leave the particles to be dissolved. He knew instances of hard, cartilaginous capsule matter having taken a year or more to be dissolved in that manner, though if the parts had been left in connection or attached to the capsule, no such results would have followed. There were instances of the points of knives broken during the operation having been absorbed. He would not, perhaps, be justified in insisting that those bodies were crystals of phosphate of lime, but he did think it highly probable that they were, and he was quite positive that they were not fibres of the lens.

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48. *Copper-coloured Syphilitic Eruption affecting the Conjunctiva.*—Alfred Smee, Esq., relates, in the *London Medical Gazette*, (13 Dec., 1844,) a case in which a copper-coloured eruption appeared on the conjunctiva. The subject of the case was a respectable married female, who applied at the Central London Ophthalmic Hospital to be relieved of a small ulcer which existed at the edge of the eyelid. From its appearance Mr. S. immediately recognized its specific character, and upon inquiry, learnt that both husband and wife had laboured under syphilis for a period of two or three years. At that time he put her upon the general antimonial treatment, and the ulceration speedily healed. At this period there were also numerous copper-coloured spots over the skin.

After a short interval she returned again, and stated that her eye was somewhat uneasy, and that she feared a return of the malady: on examination the conjunctiva below the cornea presented a spot a little smaller than a silver penny-piece. This spot appeared formed by the conjunctiva itself at that point being swollen; in fact the surface was obviously raised, and the colour changed to that of a cupreous hue, somewhat similar to the colour of the spots of the skin, but considerably lighter: this spot was not absolutely opaque, but semi-transparent, and it gave the idea that the conjunctiva at that part was swollen in its substance, and tinged of a copper colour. It presented no unusual vascularity; in fact, Mr. S. does not know that he should be justified in asserting that there was a single vessel either increased in size or added in number to those existing in the normal state. The copper colour, then, had no immediate reference to the vessels, and was due to the part exhibiting the syphilitic stain; a phenomenon by no means understood.

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49. *Chloride of Lime in Puriform Ophthalmia.* (*Provincial Med. & Surg. Journal*, Dec. 18th, 1844.)—Dr. Radclyffe Hall has treated Purulent Ophthalmia both in the adult and in children with success by the saturated solution of chloride of lime. His mode of using it is as follows:—

"The eyelids are slowly and gently separated until the cornea can be seen, when that is manageable, and all secretion wiped away with a fine soft sponge. A large bushy camel-hair pencil, charged with the strong solution, is then insinuated beneath the upper eyelid and swept round the front of the eye; the pencil is again charged with the solution and applied to the everted lower lid.

Unless plenty of the fluid be thus applied, the application will be equally painful but less effectual. There is considerable pain, of a smarting, burning character, for half an hour or longer, and the already swollen eyelids become still more tumid and prominent. This tumefaction is œdematous in character, the skin losing in some measure its peculiar redness and becoming more transparent. In a few hours, a serous discharge oozes out from between the eyelids, and the swelling partially subsides. This is followed by secretion of matter, but after two or three applications of the chloride, in perceptibly diminished quantity, the discharge gradually loses its characteristic yellow colour, and is seen in flakes on opening the eyelids. After three or more applications, the eyelids no longer swell as they did after the first, and the pain is much less. As the inflammation lessens, the lids assume a shriveled, wrinkled, yellowish appearance, and the patient can open his eyes without touching them. The eyes are kept clean with warm water, matter never being suffered to collect beneath the upper lid, a little spermaceti ointment is smeared on the edges of the eyelids, and the strong solution is applied once in every twenty-four hours, until the secretion ceases to be in the least degree puriform. No other treatment whatever is necessary. The longest period required for cure has been a month; the shortest four days.

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MIDWIFERY.

50. *Case of Twins; there being an interval of thirty-two days between their Birth.*—John Irvine, a surgeon in the British navy, records, in the *Medical Times*, (28 Dec., 1844,) the following remarkable case. Mary F., aged 35 years, was seized with labour pains, on the 1st of October, at the full period of utero-gestation; and was delivered by Dr. Burleigh, of a healthy, but rather small-sized female infant. Three hours afterwards the placenta was cast off by the natural contraction of the uterus. Dr. Burleigh, on examining the patient at this stage, clearly ascertained that the uterus was still in a gravid state. After waiting some time for the renewal of parturient efforts, he left, with instructions to be sent for when labour commenced. On visiting his patient three days afterwards, he found her out of bed following her usual domestic affairs, and in good health. On the 2d of the following November labour pains came on, and just as Dr. Burleigh arrived, a large healthy male infant was born, and two hours afterwards Dr. B. extracted the placenta. The patient's recovery was as rapid as previously, for on the third day she was attending to her family concerns.

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51. *Galvanism in Uterine Hemorrhage.* (*Prov. Med. and Surg. Journ.*)—Dr. Thomas Radford has employed galvanism with great success in the treatment of cases of uterine hemorrhage, accidental or unavoidable, accompanied by exhaustion, and occurring before, during or after labour. "I am satisfied," he says, "from positive trial of the remedy, that it will be found a most important agent in tedious labour, depending upon want of power in the uterus, and where no mechanical obstacle exists. I would also suggest the probability of its proving valuable in originating uterine action *de novo*, in cases where it may be considered necessary to induce premature labour. It seems to me also to be worthy of trial in certain cases of menorrhagia in the ungravid state, where, on vaginal examination, the uterus is found to be atonic, as evidenced by its large flaccid condition, and the patulous state of the os uteri.

His mode of applying galvanism is the following:—"The brass ball of the vaginal conductor is to be passed up to the os uteri, and moved about, at intervals, on to various parts of this organ; at the same time, the other conductor must be applied to the abdominal parietes over the fundus uteri. Shocks may be also passed transversely through the uterus, by simultaneously applying the conductor on each side of the belly.

"The application should be used at intervals, so as to approximate in its effects, as nearly as possible, to the natural pains. It may be continued until it meets the exigences of the case."

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52. *On the Spontaneous Expulsion and Artificial Extraction of the Placenta before the Child, in Placental Presentations.*—Professor Simpson read to the Medico-Chirurgical Society of Edinburgh, Dec. 4th, 1844, a paper on the expulsion and extraction of the placenta before the child, in cases of unavoidable hemorrhage. He showed, that in common cases of presentation of the placenta, when managed according to the rules generally followed under the circumstances, the mortality among the mothers was very great. Out of 174 cases, tabulated from different authors, by Dr. Churchill, this complication had proved fatal to 48 mothers; and a more extensive table of 339, drawn up by Dr. S. himself, presented a mortality of 115 mothers:—or, one out of every three died.

In contrast with these statistics, Dr. S. brought forward a number of cases, (some previously recorded, and others collected from private sources,) in which the placenta had come away before the infant, either expelled by the natural efforts alone, or in consequence, in several instances, of the reputed bad management of the accoucheur. The number of cases collected was 120 in all. Out of these only eight mothers died, or one in fifteen. In two of these, the cause of death was not stated by the reporter; in three the patient perished from puerperal fever; and two only were alleged to have died from hemorrhage. In one of these two last cases, the hemorrhage ceased as soon as the placenta was separated, but too late to save the woman.

The same cases also show that, though much blood may have been escaping *before* the placenta comes away, yet as soon as the separation is *complete*, the hemorrhage usually ceases, or becomes very trifling. A complete separation of the placenta is thus proved to be far less dangerous than a partial one,—a fact that at first may appear somewhat paradoxical, but which is readily explained by the structure of the fœtal placenta. The hemorrhage comes chiefly from the placenta itself. When it is only partially separated from the uterus, the blood enters freely by the adherent portions, and escapes as freely from the surface of the portion of placenta that is detached.

From a consideration of these facts, Dr. S. was led, four years ago, to propose to the Obstetrical Society,—whether in cases of hemorrhage from placental presentations, we should not sometimes adopt the practice of extracting the placenta, in order to arrest unavoidable hemorrhage, leaving the fœtus to be expelled by the natural efforts of the uterus, or otherwise. Dr. S. stated he had adopted this procedure, in one case, in autumn last, with perfect success, the placenta having been extracted two hours before the birth of the child. This method, he thought, would be found particularly applicable to those sets of cases in which turning or rupture of the membrane is inexpedient or impracticable; as, in cases where hemorrhage occurs to an alarming extent, while the os uteri is still small and rigid; in unavoidable hemorrhage in first labours; in placental presentations, when the patient's strength is already so sunk, from the flooding, as not to allow, without danger, of immediate turning or forcing delivery; in cases where the child is known to be dead, &c., &c.

At the subsequent meeting of the Society, (Jan. 8, 1845,) Dr. S. asserted his claims to having originated the plan of treatment described above, and stated that it had been discussed yearly ever since he was elected to the Chair of Midwifery in the University,—was well known to most of his Obstetric brethren in Edinburgh,—and had been, in 1841, formally brought by him before the Obstetric Society. He was sorry to be obliged to state these points in his own behalf on such a subject, but he had been advised that silence upon the matter would be highly unjust, both as regarded himself and as regarded the Society."—*Lond. and Edin. Month. Journ. Med. Sci.*, February, 1845

53. *On Detaching the Placenta in cases of Placenta Prævia.* (*Prov. Med. and Surg. Journ.*, Jan. 22, 1845.)—Dr. THOMAS RADFORD has been led by his experience "to conclude that on a complete separation of the placenta, the hemorrhage is immediately and completely suppressed, provided the uterus is in a condition to so far contract as to force down the head with the placenta upon the uterine openings. By this practice it may be said that the life of the child is sacrificed: but this will not always happen. We find from hospital and individual reports, that the child is usually dead when the case has been treated by the present recognized means.

"In nearly all the cases which I have collected and referred to in my paper, of expulsion of the placenta by the natural efforts, we find that the mother recovered; and when this fortunate event did not happen, it depended upon the serious impression made upon the vital powers before the placenta was completely detached.

"It may also be stated that uterine phlebitis takes place more frequently in cases of placenta prævia, when the ordinary practice is adopted, than we observe in the same number of cases of accidental hemorrhage. This result, in the opinion of the writer, arises from the contusion and slight lacerations which are consequent upon a forced delivery.

Dr. Radford has from these circumstances been led to recommend the following practice:—

"1st. Then, as neither delivery, nor detaching the placenta, ought ever to be attempted until the cervix and os uteri will safely allow the introduction of the hand; rest, the application of cold, but, above all, the use of the plug must never be omitted in cases where they are respectively required.

"2d. If there are unequivocal signs of the child's death, the placenta is to be completely detached, and the membranes are to be ruptured. The case is then to be left to the natural efforts, provided there be sufficient uterine energy; if otherwise, the ordinary means are to be used, and, in addition, galvanism.

"3d. When a narrow pelvis exists in connection with placenta prævia, the practice is to detach the placenta and to remove it, then to perforate the head as soon as the condition of the parts allow, and to extract it by means of the crotchet.

"4th. When the os uteri is partially dilated, and dilatable so as to allow the easy introduction of the hand, when the membranes are ruptured and strong uterine contraction exists, the practice is to detach the placenta completely.

"5th. In all cases of exhaustion, as already referred to in my paper, the practice is to draw off the liquor amnii, by perforating the placenta, as then recommended, then to detach completely this organ, and apply galvanism.

"6th. In all cases of partial presentation of the placenta, the artificial rupture of the membranes will generally be found sufficient to arrest the hemorrhage, but if that should prove ineffectual, then we must apply galvanism.

"The practice of detaching and removing the placenta was adopted by some of the older writers; and as I have mentioned in my paper 'On Galvanism applied to the Treatment of Uterine Hemorrhage,' I detached this organ in the year 1819, although it was not my custom to do so.

"Early in October, I received a letter from my respected friend Professor Simpson, in which he stated he removed the placenta in a case of unavoidable hemorrhage. He 'had the placenta on a plate two hours before the baby was born.' The mother recovered. Dr. Simpson has collected a great number of cases of expulsion of the placenta before the child, and has come to the conclusion, that the practice of its removal, in some cases of placenta prævia, is calculated to save the patient's life."

[Dr. Bradford claims for the late Mr. Kinder Wood, the merit of having been the first to propose detaching and extracting the placenta before the child. in some cases of unavoidable hemorrhage, and has published in the *Provincial Medical and Surgical Journal*, Feb. 26, 1845, some documents which appear to substantiate this claim.]

54. *Term of Pregnancy exceeded by Four Weeks.*—A pregnant woman, who had already borne three children, was attended by Dr. Hayn, of Konigsberg, for "gastro-nervous fever." The affection was so severe that premature labour was threatened. Dr. H. made an examination *per vaginam*, and felt satisfied, as well from this as from the woman's account, and her other symptoms, that the natural term of her utero-gestation would expire about the 23d of May, 1841. The patient recovered from her fever, and at the above-mentioned date was seized with weak labour pains, copious mucous secretion from the vagina, and remarkable sinking of the uterus into the pelvis. After three days the pains wore away; and four weeks thereafter the woman was with difficulty delivered of an unusually large child.—*Northern Journal of Med.*, May, 1844, *from Caspar's Wochenschrift, No.* 47, 1843.

55. *Influence of shortness of the Umbilical Cord on Labour.*—MM. Capuron and Danyau read to the French Academy of Medicine a report on a memoir presented by M. Hirtz, of Strasbourg, on this subject. M. Hirtz believes, along with many old and modern accoucheurs, that shortness of the cord, either natural or secondary, (when it is rolled round the neck of the fœtus,) is a cause of difficult labour, and warrants, indeed necessitates, the use of the forceps, as soon as possible after it has been recognized. It may, he says, be recognized by the following symptoms:—The alternating descent and ascent of the head in the vagina, occasioned by the uterus, dragging up the fœtus, when it ascends after being pressed downwards by the contraction of the abdominal muscles; local pain experienced in that part of the uterus to which the placenta is attached, and caused by the dragging of the cord. The reporters, in contradiction to M. Hirtz, do not appear to admit that shortness of the cord is an impediment to labour, and deny entirely the value of the symptoms given by M. Hirtz, which may be said to sum up those of former writers. They think that the ascent of the fœtal head in the interval of uterine contraction is the result of the elasticity of the bones of the head, and of the parts which cover the parietes of the maternal pelvis. Moreover, the uterus, being in a state of relaxation, cannot exercise any traction on the fœtus. Even in the cases in which the head of the fœtus appears to traverse nearly the entire length of the vagina, in its alternate descent and ascent, they think that the circumstance is to be attributed merely to the above causes—viz., the elasticity of the head and parietes of the pelvis. As to the local uterine pain, it is often observed even in the most natural labours, and is, consequently, of little or no value. They do not find, either, that the adoption of these views has influenced the practice of M. Hirtz. In the cases which he narrates, the patients being primiparous, the head remaining much longer than usual in the cavity of the pelvis, and there being local uterine pain, M. Hirtz applied the forceps. Finding the cord twisted round the neck of the fœtus, he concluded that this was the cause of the tardy delivery. Such an opinion, although legitimate, is not conclusive, as it is merely founded on the coincidence of a tedious labour in a primiparous woman, with twisting of the cord round the fœtal neck. The application of the forceps was indicated in such a case without reference to shortness of the cord.—*Lancet*, Jan. 4, 1845.

56. *Varicose Tumour of the Neck of the Uterus obstructing Parturition.*—Dr. Pellegrini was called to visit a female, æt. 30, who had been twice previously delivered without difficulty: she was of delicate constitution, and lymphatic temperament: she had been one entire day in labour, and the fœtal head had been several hours at the external orifice, without advancing. The midwife who had been in attendance stated, that the passage of the head was prevented by a tumour lying in its course, and which, though at first small, had become gradually larger until it attained the size of a fist. The uterine contractions had recurred with vigour, and the head had descended pushing before it the tumour, which again retrograded immediately when the uterine contraction ceased.

On examination Dr. P. found that this tumour was the sole cause of the detention of the head; that it was hard, somewhat elastic, smooth on its surface, dark-red in colour, and pyriform in shape; it had a pedicle about the size of the finger, which passed deep under the pubic arch and was without pulsation. At first sight Dr. P. took the tumour for a polypus, gorged with blood in consequence of the strangulation of its pedicle between the head and the pubic bones. As it seemed impossible to push back the head, as is generally recommended, Dr. P. resolved to cut away the tumour; when, however, he reflected that its nature was unknown to him, that it might be either a vascular tumour, or a hernia of the vagina, he determined to terminate the labour by means of forceps, and to wait for subsequent examination to prove its nature. He accordingly encircled it with a ligature, raised it gently over the pubes, and intrusting it to the midwife, he then succeeded without much difficulty in applying forceps and completing the delivery. The tumour was then left to itself, when it remained suspended between the labia majora; some minutes afterwards he renewed his examination, in order to determine what further steps ought to be taken with regard to it, when to his great surprise he found that it had lost a third of its volume, and had become soft and fluctuating. The pedicle was traced up to the uterine orifice, and its base was found to occupy part of the neck and the whole of the anterior lip of the os uteri. Dr. P. then began to suspect that the tumour might be a varicose vein of the neck of the uterus, which, pushed before the head, and elongated by the strong pressure that it had undergone, had swelled in such a manner as to form a hard tumour which might easily have been mistaken for a polypus. This suspicion was changed to a certainty, when it was found four days after delivery that the tumour had entirely disappeared, and that in its place there could be felt merely a slight swelling occupying the anterior portions of the cervix and os tincæ: this swelling was no other than a real varix, recognizable by its softness, elasticity and the smooth appearance of its surface. A year and a half subsequently the patient was again confined, when the same tumour again preceded the fœtal head; but as it was only half the size of what it was on the former occasion, it presented no obstacle to the delivery, which was rapidly completed, without any artificial assistance, and with a successful issue. A year after this latter delivery, Dr. P. examined the female, and could still trace the varix on the os tincæ.—*Northern Journ. of Med.*, Nov., 1844, from *Annali Univ. di Méd.*, June, 1844.

57. *Evolution and Delivery with Presentation of the Arm and Shoulder.* By Dr. Sussewind.—[We give the following case as we find it quoted in the *London Med. Gaz*, 20 Dec., 1844, from *Caspar's Wochenschrift*, No. 23; the dimensions of the fœtus are not given.]

A healthy woman, who had already had several children without difficulty of any kind, was taken in labour again, and besides the waters, lost a considerable quantity of blood. When seen first, the right upper extremity of the fœtus was found projecting from the external parts of the mother: the pains at this time had almost ceased, but on an attempt being made to introduce the hand, and turn, they came on again with such violence that the attendant was on the point of taking away some blood to moderate their force. The mother now said she felt the child advancing, and, in fact, the right shoulder and collar-bone were forced beyond the vulva: the lower extremities and buttocks were at the same time forced into the hollow of the sacrum, and by and by the right ramus of the lower-jaw came into sight, the shoulders and arm having receded. But little effort was required to disengage the breech, upon which the child was quickly born; but it was dead. The placenta followed, and an hour afterwards the woman felt herself very comfortable.

MEDICAL JURISPRUDENCE AND TOXICOLOGY.

58. *Monomania.*—The case of *Greenwood's Will* is one of the earliest ever discussed in the English Courts, with reference to the subject of partial insanity or monomania. It was tried before Lord Kenyon and a special jury on the 13th of May, 1790, but up to last year, we have no detailed account of the evidence adduced.

Lord Erskine, in his celebrated speech for Hadfield, referred to it in the following terms:

"In the very recent instance of Mr. Greenwood (which must be fresh in his lordship's recollection), the rule in civil cases was considered to be settled. That gentleman, whilst insane, took up an idea that a most affectionate brother had administered poison to him. Indeed it was the prominent feature of his insanity. In a few months he recovered his senses. He returned to his profession as an advocate, was sound and eminent in his practice, and in all respects a most intelligent and useful member of society, but he could never dislodge from his mind the morbid delusion which disturbed it, and under the pressure, no doubt, of that diseased prepossession, he disinherited his brother. The cause to avoid this will was tried here. We are not now upon the evidence, but upon the principle adopted as the law. The noble and learned Judge who presides upon this trial and who presided upon that, told the Jury, that if they believed Mr. Greenwood, when he made the will, to have been *insane*, the will could not be supported, whether it had disinherited his brother or not; that the act, no doubt, strongly confirmed the existence of the false idea, which, if believed by the jury to amount to *madness*, would equally have affected his testament, if the brother, instead of being disinherited, had been in his grave, and that on the other hand, if the unfounded notion did not amount to madness, its influence could not vacate the devise."

After more than fifty years, Dr. Curties, in an appendix to the third volume of his Ecclesiastical Reports, has published the charge of Lord Kenyon in this leading case, from the short-hand notes of Mr. Gumey.

It appears, that previous to this trial, William Greenwood, the disinherited brother, had brought an ejectment in the Court of Common Pleas, and obtained a verdict against the will. The defendant (a cousin) in that action was then in America, but hearing of the verdict, immediately returned to England, and commenced the present action. Mr. Erskine was engaged in his favour and Sergeant Adair for the brother.

The charge of Lord Kenyon is elaborate and minute, and contains a full analysis of the testimony. I shall not attempt beyond a brief statement of it.

After adverting to the caprice which is often shown in the disposition of property, but yet without any suspicion of the sound state of mind of the testators, he observes that there was a possible fallacy in the statement of the question by the learned Sergeant.

"He stated that the question was, whether the disposition was the effect of madness or of sound mind. I am rather inclined to believe that some persons in judging of it, would look first to the act done, and argue up from that to the sanity or insanity of the mind, instead of looking at that which is the real question, and which the law ever considers to be the question, namely, whether *the testator was of sound and disposing mind and understanding when he made his will?* This is *the* question which the wisdom of ages has framed, and which as often as the question arises in Courts of Justice, and is put into form, in those words, it is put into form."

In favour of the sanity of the testator, was adduced the testimony of a number of respectable and intelligent persons, who had known Mr. Greenwood from the time of leaving school and going to college—during his study of the profession of the law, and subsequently in family intercourse, and in business affairs. They all agree, that there was no appearance of derangement of mind, either in conduct or behaviour. Several, however, remarked that the brothers, although they lived together, appeared to hold no communication with each other, there was no conversation between "them, when they sat together at dinner."

Dr. Reynolds, a physician, stated that in November, 1787, Mr. Greenwood consulted him on his illness, which was a consumptive case; there was no appearance of derangement of the intellect; he conversed as a sane man, and described his disorder with accuracy.

Mr. Greenwood's friends pressed him to go to Lisbon for the recovery of his health. He replied that he could not, until he had settled his affairs. When his brother was suggested as an agent, he said, in a determined way, "he shall have nothing to do with my affairs." He appointed an agent, drew up instructions, marked with great accuracy and good sense, and after this departed for London. While there, on the 7th of December, he drew up and executed his will. The friend who gives this testimony, adds, that he received a letter, dated Lisbon, January 10, giving a long, accurate and sensible account. He also had, however, observed other instances of marked dislike to his brother—such as, if Mr. Greenwood wanted to be helped to a dish at table that stood near his brother, he had the dish removed to him, rather than ask his brother to help him.

The great majority of the witnesses, however, having met him in the ordinary intercourse of conversation and business, united in pronouncing Mr. Greenwood, a man of sound mind and understanding, and perfectly competent to dispose of property.

The first witness called on the part of the defendant was Mr. Hingerston, the apothecary. He deposes that on the day after his father's death, he was sent for to Mr. John Greenwood—who was extremely feverish—this continued for several days, and was finally accompanied with delirium. The patient was restless and suspicious, made complaints to him of his brother and servant, and hinted that there were plots against him. This was on the 25th of April—and that he attended him until the 23d of June—that he never was free from delirium, as long as he attended him. Coercion was thought necessary, and a keeper was employed from the Horton establishment, who remained ten weeks, and did not consider him in his right mind. He thought him not quite well when he left, though much better—noticed violent paroxysms of passion in consequence of the detection of an untruth.

Dr. Pitcairn was called at the instance of Mr. Jones. Mr. Greenwood was ill, and unmanageable on the 26th of April. "He thought no one could look at him without perceiving that he was in an insane state." Dr. Budd prescribed for him, and concurred in the belief of his insanity. He was very shy, particularly when his brother was present.

Mr. Livie, an old friend of the family, states that on the death of the father, all were in great distress. Mr. Greenwood was ill the next day, and some days after, he sent for his brother and witness; expressed his apprehensions of immediate death, and said that, if this should happen, his whole property would go to his brother and sister. Mr. Livie soon thought that a keeper was necessary—but saw very little of him, until Price was removed. He met him some time after, put out his hand, but Greenwood would not shake hands, and ever afterwards, when he passed, would not bow or speak to him.

The Rev. Mr. Jones was the tutor of Mr. Greenwood at Trinity College, Cambridge. Mr. Greenwood having escaped out of the window, came to him on the 5th of May, 1786. He found him dressed in deep mourning, very pale, in great distress, said he had lost the best of fathers, that his friends had deserted him, the Higginsons; Livie and his brother, too, had deserted him and had spread a villainous report of him, that he had been undutiful to his father, and been accessory to his father's death, and that they had confined him. He urged him to accompany him to London, which he did. He was low and melancholy, and Mr. Jones did not think he was in his right mind.

On the 20th of June Mr. Jones again saw him; he was still low and melancholy, but not so bad as before. He appeared to have a great dislike of his brother. In December, 1786, he appeared to have recovered his senses. The witness then talked with him about his brother. The deceased said he would convince him that his brother had not done right; and he called him a hound, a scoundrel, and a villain.

Mr. Jones saw Mr. Greenwood again on the 4th of June, when he noticed, for the first time, that the deceased had taken a dislike to himself; talked of friendship being only a name, and of being deserted; and at a subsequent interview in July, 1787, burst into a violent rage; accused him of calling in Dr. Budd, and of retaining Price. He left him, refusing to give his hand.

To another witness, a college acquaintance, he stated, in July, 1787, that his brother had been the author of the "force used to him. He also charged his brother with having accused him of not feeling for his father. He further said that they had given him brandy and water, in which they had put poison; and that they had put arsenic into his tea-kettle; that he asked the witness whether he would not have him prosecute his brother; that he would certainly prosecute his brother." This witness also proved his constant sullenness and unkindness to both brother and sister. He promised to alter this, but very shortly after returned to his former habit.

Other witnesses proved that this feeling was entertained even after his arrival at Lisbon.

Lord Kenyon concluded his charge as follows: "The inquiry, and the sole inquiry, in this cause is, whether he was of sound and disposing mind and memory at the time when he made his will. However deranged he might be before, if he had recovered his reason at the time, he was competent to make his will.

"And I take it, a mind and memory competent to dispose of his property, when it is a little explained, may stand thus: having that recollection about him that would enable him to look about the property he had to dispose of, and the persons to whom he wished to dispose of it. If he had a power of summoning up his mind so as to know what his property was, and who those persons were that then were the objects of his bounty, then he was competent to make his will.

"The conduct which he held to his brother was certainly considerably unaccountable. If, whenever his brother's name occurred, instantly a fit of delirium had seized him, then I should conceive that he was not competent to make his will; but if his mind remained entire—if he had new raised up prejudices against his brother, though upon improper grounds, yet if they were such prejudices as might reside in a sound mind, it is hard that those prejudices should lead to conclusions unfavourable to his brother; but hard as the case may be, it is better that a thousand hard cases should take place than that we should remove the landmarks by which man's property is to be decided.

"It is for you to look at that conduct to his brother to see whether it is evidence of a derangement of mind, or whether only an unreasonable prejudice which he indulged against his brother; if it be the last, that did not unfit him to make his last will and testament.

"A multitude of instances there have been, where men have taken up prejudices against their nearest and dearest relations; it is the history of every week in the year, and the history of almost every family at one time or other—that harsh dispositions have been made—that unreasonable prejudices have taken place—that one child, standing equally near in blood, has been preferred to another; and if once we get into digressions of that kind, then we get upon a sea without a rudder. Where will you stop? what partiality will be enough to set aside a will? and what partiality will you give way to, and say the will is good? These are questions which the most correct and acute mind that ever addressed himself to the consideration of questions, will not be able to settle.

"Your are to consider whether his mind was entire to make the disposition; not whether the disposition was whimsical, cruel; what none of you, retiring to your own bosoms, and collecting your own feelings, would have made; but to see whether it was the disposition of this man's mind, exercising the faculties of his mind, when in possession of those faculties.

"If you think that, whenever that topic occurred to him, it totally deranged his mind, and prevented him from judging of whom the objects of his bounty should be, according to his own will, then the will cannot stand, and then you will find for the defendant; but if you think he was of competent mind to make his will, to exercise his judgment, however that might be disturbed by passions which ought not to be encouraged, then the will ought to stand. It is for you to decide; and the care and attention you have paid have made it unnecessary for me to say so much as I have said, in addition to the evidence." Verdict for the plaintiff.

The reader will observe that an opposite verdict had been obtained for the defendant in the Common Pleas. In consequence of this, Judge Cooper (Medical Jurisprudence, p. 396) says that a compromise took place. T. R. B.

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59. *Poisoning with Oxalic Acid.*—The following case, by Dr. LETHEBY, presents some peculiarities. An unmarried female, aged twenty-two, had a quarrel with her lover, and in a fit of jealousy, after he had left her, took oxalic acid, and the next morning was found dead in her room. Mr. Garrat made an examination of the body, removing the stomach and its contents, although he had great difficulty in so doing, from the corroded and softened condition of that organ.

He brought them to Dr. Letheby for examination. The stomach was very much blanched, except in two or three places where there were small black spots, as if blood had been effused and acted upon by the poison, and here and there a blood-vessel might be seen ramifying, with its contents similarly blackened. The tissue of the stomach was so softened and disorganized, that it could scarcely be handled without tearing; indeed, at the cardiac end, it was reduced to a pulpy or gelatinous consistence, and had, in consequence, numerous perforations.

The contents of the stomach were about six ounces in quantity; the fluid was of a dark colour, like porter, and contained very little solid matter; it was strongly acid, and on being tested, was found to contain about three drachms of oxalic acid.

Dr. Letheby remarks that it has been doubted by some authorities, whether oxalic acid has any corrosive action on the stomach. "Dr. Christison mentions only one case, in which he found the stomach perforated after its exhibition; and Mr. Taylor remarks, that in his experiments on animals, and from some few observations on the human subject, he has found nothing to bear out the view that perforation is a common effect of the action of this poison." The present case, however, is sufficient to show that softening and perforation may take place.—*London Medical Gazette*, Oct., 1844.

Dr. Letheby might probably have added, with truth, that the unrestrained operation of this powerful poison aided in inducing the result. Deverjie states expressly, that oxalic acid, when concentrated, caused in animals a softening and a gelatinous condition of the stomach. T. R. B.

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60. *Poisoning with Mortar or Quicklime.*—A boy, three years of age, playing in a garden, where builders were at work, tasted some slacked-lime, and finding it sweet, he ate a considerable quantity. The parents observed him, and having taken a quantity of lime from his mouth and nose, sent for medical assistance. An emetic of Ipecac. was ordered, and after large doses, he vomited up a mass of gray stuff, like mortar. Almond emulsion was then ordered. The night was restless; the child feverish; drank frequently and refused food; the lips were of a chalky whiteness; the mouth showed several blisters; the belly was hot, and painful on pressure, and the alvine evacuations were bloody. A few leeches were now applied to the abdomen and eventually the child got well.—Dr. LION *in Caspar's Wochenschrift.*—*Ibid.* T. R. B.

61. *Poisoning with Radix Sambuci.* (Dr. Schollmeyer, *Medicinische Zeitung.*)—A weakly woman, 54 years old, who had been sick all day, and thrown up a quantity of greenish stuff, which she regarded as bile, was persuaded by her husband to take two tablespoonfuls of the juice of the fresh elder-root, which he himself had dug up, shaved down and pressed. The woman complained of severe pain in the abdomen. An infusion of senna was ordered, but she did not take it, as the bowels began almost immediately to act copiously. Next day, the symptoms were those of enteritis; paralysis of the lungs followed, and the patient died. The body was not opened.—*Ibid.* T. R. B.

62. *Acetate of Iron as a Remedy for Arsenical Preparations.*—According to the experiments of Duflos, the hydrated peroxide of iron, although of admitted efficacy in cases of poisoning with uncombined arsenious or arsenic acid, is wholly ineffectual when these acids are combined with bases, as for example, Fowler's solution, or arsenite of potash, or arseniate of potash, which last is frequently employed in calico-printing and is consequently easily procured.

In the uncertainty in which the practitioner may thus be placed, as to whether the arsenical poison be free or uncombined, it is very important to administer the oxide of iron in such a form as to produce a favourable result, and to this end, the peracetate of iron is advised. It may be prepared by adding to the hydrated peroxide of iron, three parts of acetic acid of density 1·06, and sufficient water to make up sixteen parts.

This liquid, which is a solution of peracetate of iron with excess of base, precipitates arsenious and arsenic acids from all their solutions, either free or combined with any base; 500 grains of it are sufficient to decompose 1880 grains of Fowler's solution. Its power is more rapid in proportion as it is more diluted with water, besides which, large dilution prevents all irritating action of the acetic acid set free.—*London, Edinburgh and Dublin Philosoph. Magazine*, Dec. 1844, *from Journal de Chimie Medicale.* T. R. B.

63. *Report on the Physiological Actions of Medicines.*—At the last meeting of the British Association, Dr. J. Blake endeavoured to prove and illustrate the law, suggested in a former report, by additional experiments, viz: "That isomorphous substances, when introduced directly into the blood, exert an analogous influence on the animal economy." The substances experimented with were the tartrate of antimony, which (when injected into the veins), produced exactly the same phenomena as did the arsenic or phosphoric acid, as detailed in former reports; the salts of palladium and platinum, the action of which was identical. The last series of isomorphous substances was the well-defined group, the chloric, hydrochloric, bromic and iodic acids, the effects of which were closely analogous, viz: the arrest of the circulation in the lungs, the animal dying from congestion and serous effusion in the respiratory organs. When the injection was into the venous system and when into the arteries, the circulation was irregularly depressed and elevated at intervals. From the evidence of former groups of experiments, united with those detailed in this report, the author deems the law referred to proved, and the conclusion warranted, that the molecular reactions that take place between the elements of living beings and inorganic bodies, are to a great extent independent of chemical affinity, but connected with those properties of matter expressed by its isomorphous relations, or by its physical polarity.—*Athenæum*, Oct. 26th, 1844.

Surely this explanation is too *physical.* T. R. B.

64. *Appearances on Dissection in a case of Suicidal Suspension.* By Campbell de Morgan. (Middlesex Hospital.)—A female, aged fifty, with a grown-up family, had suffered for more than a twelvemonth from a cancerous affection of the uterus, which had caused constant and intense pain. She had been relieved greatly by proper medical treatment, until about four days before her death, when her agonies were again intense. She was at the same time, so weak, that she made no movement without assistance, and then only with great pain

and difficulty; at half-past six P. M., she begged those about her to go for a time into an adjoining room, as she said she felt disposed to sleep. Her husband went into the room a little before seven, and she was then quiet, suffering much, but still desiring to be alone. He left her and remained in the next room with the family; no noise whatever was heard. About half an hour after, her husband again went to the room and found her hanging from the bed-rail quite lifeless; this rail was at the side of the upper end of the bed, and about five feet eight inches from the ground; the front of her body was turned round towards the bed, the head thrown forcibly back, the knot being placed on the middle of the under side of the chin. An old silk handkerchief had served for a cord. She had been in the habit of using it to shift her position, one end being fastened to the bed, while she raised herself by pulling on the other; it had become by frequent use in this way, nearly as round and contracted as a thin rope. Between the point of suspension and the knot, there was about four inches distance, and her height was five feet one inch, so that there was not more than three inches space between her heel and the ground. The knees must have been on a level with the bed-frame and resting against it. A low chair stood near the body, but neither that nor any other piece of furniture was upset or disturbed. Mr. Lonsdale saw the body an hour after it was cut down. The features were perfectly calm and there was no trace of congestion about the face.

Two days after, Messrs. De Morgan and Lonsdale examined the body. Decomposition had commenced, but there was very little cadaverous lividity of the depending parts of the body. The face was pale, the ears natural, the eyes neither injected nor prominent; the tongue was pale, lying far within the teeth and without any mark of indentation. The cord-mark was well defined and like parchment, dry, brown and hard. At the upper edge of the groove, on the right side, was a thin line of congestion. This appearance was absent on the lower edge of this side, and it did not exist at all on the left side; there was no ecchymosis under the groove. The direction of the cord-mark was remarkable. It was very deep at the posterior part of the neck, just over the atlas, and extended in a direction from above *downwards* and forwards on each side, to the posterior edges of the sterno-mastoid muscles, a little below the angle of the jaw; anterior to this, there was no mark whatever, excepting one broad, hard patch, just under the chin, where the knot had made its impression.

The uterus was found greatly diseased—the stomach healthy, as also the lungs, without congestion, and the heart was also natural in appearance, and as to quantity of blood.

There were thus no proofs that dyspnœa or cerebral congestion had been the cause of death. But it seemed probable that the spinal marrow was injured, and such was found to be the fact. Ecchymosis about the deep muscles, over the second and third cervical vertebræ, and on removing the first five vertebræ and opening the canal, ecchymosis was found in the sheath of the spinal marrow, at a part corresponding to the external injuries. At the left side and exterior to the sheath, was an extensive effusion of blood, firmly coagulated. The odontoid process was firmly retained in its place, none of its ligaments having given way, nor were there any marks of fracture of the vertebræ, nor of laceration of their ligaments, but there was an unusual degree of mobility between the third and fourth vertebræ, as though the ligaments had been stretched.

This is quite an interesting case. The great weakness of the female—the body not being heavy, and the fall, if any, very trifling, all show that but little exertion could have been employed. But the peculiar position and direction of the cord, which were such that the force employed must have operated in bending the head, and the two upper vertebræ abruptly backwards, will explain the cause of this effect on the spine. The only instance (says Mr. De Morgan) of which he is aware, whose death was supposed to have been caused by the forcible bending of the head backwards, is mentioned by Deverjie, vol. ii. p. 477, 2d edition. In this case, however, the body was not opened, and both

Esquirol and Deverjie doubt the truth of the explanation offered of the cause of the absence of all external signs of death by dyspnœa, viz: the luxation of the cervical vertebræ. The present case, however, renders that explanation more probable. It shows, moreover, that an injury may be done to the neck in hanging, sufficient to interfere with the functions of the spinal marrow, but without the occurrence of rupture of the ligaments or processes.—*Lancet*, Aug. 10, 1844.
T. R. B.

65. *Strangulation by Machinery.*—On Monday, (Jan. 16, 1845,) Mr. Baker held an inquest on the body of William Laurence, aged 18, employed by Mr. Martin, paper glazer and embosser. On the previous Friday evening, deceased was about to glaze some paper at a one horse power steam engine, and was passing a proof sheet between its rollers, one of which is of hollowed brass, heated by a red hot round bar of iron, in the manner of a tea urn. He wore at the time, a neckerchief, tied sailor like, with the ends depending loosely and long. The sheet of paper he was trying, missing its bite, slipped, and as he stooped to catch it, the ends of his neckcloth got beneath the brass roller, and he was drawn in with his neck and side face tightly fixed against it. He cried out "stop the engine," and two fellow workmen, hearing the appeal he made, hurried to his assistance and did so. They then unscrewed the rollers, and extricated deceased. He sighed heavily, once or twice, and expired. Mr. Matcher, a neighbouring surgeon, pronounced the cause of death to be strangulation, and accounted for its suddenness through the close contact of the deceased's visage with the heated roller. Had it been cool, since he was so expeditiously extricated, he might not have been strangled. Verdict, "Accidental Death."—*London Illustrated News*, January, 1845. T. R. B.

66. *Death from Tartaric Acid.*—The same journal states that on the 7th of Jan., Mr. Walkley held an inquest on the body of William Watts, a cab driver. The evidence went to prove that the deceased went into the shop of Mr. Watkins, druggist, and asked for two ounces of Epsom salts, but by mistake, Mr. Watkins, junior, gave him Tartaric Acid, from the effects of which he died some days afterwards. The jury returned a verdict of manslaughter against Mr. Watkins, jr., and he was conveyed to gaol.

If the above account be correct, it is probably the first case that has occurred of poisoning by Tartaric Acid. Drs. Christison and Coindet administered large doses (*Edinb. Med. and Surg. Journal*, vol. 19,) to animals without any injurious effects.
T. R. B.

67. *Feigned Diseases in Egypt.*—"The dread of conscription is painfully illustrated by the number of maimed you meet everywhere. At least two-thirds of the male population of Egypt have deprived themselves of the right eye, or of the forefinger of the right hand. There are even professional persons, who go about to poison the eye, which they do with verdigris, or sew it up altogether. Our equipment consisted of twelve men; of these only ten were liable to conscription, and seven of them were either one-eyed or fore-fingerless."—*Warburton's Crescent and the Cross.* T. R. B.

68. *Poison of Snakes in Australia.*—"The poison of the generality of Australian snakes appears to act differently from that of the rattlesnake of America, or the viper of England; for whereas the poison of the latter species creates immediately a marked effect on the punctured wound, causing violent swelling, intense pain, and a yellow or livid hue over the surface, the bite of Australian snakes does not cause much pain or inflammation in the wound itself, but seems principally to affect the whole nervous system, rapidly causing the patient to fall into a comatose state. In this respect, the poison resembles that of the asp of Egypt."—HODGKINSON'S *Australia.* T. R. B.

MEDICAL STATISTICS.

69. *On the Mortality at Different Ages in Certain Diseases.* By ALEX. WATT, LL.D.—IN a paper which was published in the proceedings of the Glasgow Philosophical Society last year, I showed, from the returns obtained from different towns in England and Scotland, that the amount of deaths by various diseases is nearly identical at the same ages, and that whatever the total amount of deaths by each disease may be, the proportion which the deaths falling at certain periods of life bears to the whole deaths by these respective diseases remains the same. The examples given in that paper related to fever, measles, small-pox and bowel complaints. As the law which was deduced from these examples appeared to be of great interest, it became an important point to determine whether it was of more general application, since a knowledge of the specific laws of mortality by each disease at different ages, by determining more clearly the nature and operation of the disease, may be expected to lead both to improved modes of medical treatment, and to facilitate the introduction of such sanatary regulations as would insure to the inhabitants of our cities one of the most important of social blessings—a healthy population. Through the kindness of William Mills, Esq., formerly lord provost of Glasgow, I have been enabled to compare my former tables with data which I have calculated from the mortality bills of New York and Philadelphia. From such comparative results we are enabled to distinguish, at a glance, the modifications which diseases undergo in different climates. One of the most interesting diseases is typhus, on account of its frequent occurrence in this country, and more especially in Glasgow, where it seems to serve as a test of destitution.

Fever.—In the bills of mortality for New York and Philadelphia, the mortality by the different species of fever being judiciously given separately, we are enabled to select the species corresponding with those registered under the head of fever in the Scottish towns. The following table exhibits the comparative mortality from fever in Edinburgh and Glasgow, and from fevers, exclusive of puerperal and scarlet fevers, in New York and Philadelphia:—

	Edinb. p. ct.	Glasg. p. ct.	N. York p. ct.	Philad. p. ct.	Mach. p. ct.
Deaths under 5 years to the whole deaths by fever, - - - - -	12.41	12.07	15.67	17.34	16.08
Ditto, under 20 years, - - - -	29.74	29.05	30.22	33.03	38.48
Ditto, 20 and upwards, - - -	70.25	70.94	69.77	66.96	61.51

In the above table the per centage for New York was deduced from 1416 cases, and that of Philadelphia from 663 cases. The greatest difference appears to be at the lowest ages, where the mortality in America is higher. Similar results frequently occur in this country when the disease is less prevalent, as in 1842, in Glasgow, when the mortality under 5 years was 18.58. During that year it is well known that there was a smaller proportion of deaths by typhus than usual.

Measles.—The following table affords an extended illustration of the same law, which was pointed out in the last paper published in the "Proceedings," and shows that the number who die of measles is nearly the same at the same ages in different towns:—

	Glasgow.	Edinburgh.	N. York.	Philad.
Under 2 years, - - - - - - - - -	52.76	60.25	47.48	45.76
" 5 " - - - - - - - - - -	88.08	92.30	90.09	89.83
" 20 " - - - - - - - - - - -	99.35	99.67	98.27	99.43
Above 20 " - - - - - - - - - -	0.64	0.42	1.72	0.56

The total amount of deaths in each of these towns was very different, and yet it will be observed that the proportion of deaths, at the different ages, to the whole deaths by measles are very nearly the same in each of these towns, the variation being chiefly at ages under two years.

Scarlet Fever.—The following table exhibits the per centage proportionate amount of deaths by scarlet fever, at different ages, in various towns, to the whole deaths by that disease in each town respectively:—

	Glasgow.	N. York.	Philadelphia.
Under 2 years, - - - - - - - - - - - -	35.40	30.12	40.69
" 5 " - - - - - - - - - - - -	70.15	76.75	75.49
" 20 " - - - - - - - - - - - -	97.95	97.39	97.77
Above 20 " - - - - - - - - - - -	2.04	2.60	2.22

Similar examples to the above are given for other towns of England and Scotland in the volume of the "British Association Transactions" for 1842, and from them it appears that the same law is applicable in all the localities examined. That the proportions of deaths by scarlet fever, at the different ages, to the whole deaths, should be so nearly the same in New York and Philadelphia is remarkable, and although the amount for the lower ages differs from Glasgow, there is, no doubt, sufficient reason for this variation.

Small-Pox.—In this table we have compared the proportionate amount of deaths by small-pox, per cent., at different ages, in various towns, to the whole deaths by that disease in each town respectively:—

	Glasgow.	Edinburgh.	N. York.	Philadelphia.
Under 2 years, - - - - - - -	57.76	53.24	34.11	34.39
" 5 " - - - - - - -	85.72	82.68	58.66	57.14
" 20 " - - - - - - -	95.12	95.23	72.74	77.24
Above 20 " - - - - - - -	4.87	4.76	27.25	22.75

From this table it appears that the proportion of deaths by small-pox to the whole amount of deaths by that disease in New York and Philadelphia, at the same ages, is very different from the proportion of deaths by the same disease in the towns of this country, the proportions under two years of age being above 23 per cent. less in New York and Philadelphia than in Glasgow. There is, of course, a corresponding increase in the proportion of deaths at the higher ages; yet it must be observed that the proportion of deaths by this disease at the early ages is the same in Philadelphia as it is at New York, affording another strong proof that there are physical laws which regulate the amount of deaths at different ages by the various diseases, when unimpeded by local causes. It is highly probable that inattention to early vaccination may be the immediate cause of a greater mortality at the higher ages in America than in this country. A difference in this respect exists also between the towns of England and Scotland. The proportion of deaths above twenty years of age by small-pox, in Manchester, amounts to 1.687 per cent. of the whole deaths by that disease, and to 2.316 per cent. in Liverpool; whereas the proportion above that age cut off by small-pox amounts to 4.479 per cent. in Edinburgh. However much this effect in Glasgow and Edinburgh is produced by inattention to vaccination, the evil is very much the same in both cities, so far as the proportion at the higher ages is taken into account. It appears, also, from the returns, that the proportion of deaths by small-pox to the population in Edinburgh, is not half so great as that in Glasgow; and, as small-pox is much more destructive in some years than in others, and as the comparison only extends over three years for Edinburgh, and over five years for Glasgow, this comparison of the total amount of deaths by small-pox may be more favourable to Edinburgh than it ought to be.

Hooping-Cough.—This table shows the amount of deaths from hooping-cough, under and above certain ages, in different towns, and proportions which the amount of deaths at these ages bear to the whole amount of deaths by that disease in each town respectively:—

	Glasgow.	Edinburgh.	N. York.	Philad.	Birming.
Under 2 years, - - - - - -	66.37	66.38	67.52	77.48	
" 5 " - - - - - -	91.52	92.87	93.51	95.03	93.42
" 20 " - - - - - -	99.77	100.00	99.78	100.00	100.00
Above 20 " - - - - - -	0.22	0.00	0.21	0.00	

Some of the cases above twenty years should possibly not be classed with hooping-cough. One case, in Glasgow, is stated as being between 40 and 50, and another between 50 and 60. A case above twenty years, given in the New York tables, occurred in 1840, and is recorded as being between 30 and 40 years of age.

Remarks on the tables.—The data which have been adduced seem to demonstrate that the proportions in the amount of deaths under any given age, by the diseases which have been selected for consideration, viz., fevers, measles, scarlet fever, small-pox, and hooping-cough, to the whole amount of deaths by each disease respectively, are almost identical, although the same amount of deaths by the same disease is very different in each city. In some instances, where the circumstances of the people vary much from each other, a corresponding variation takes place in the mortality at the same ages. This is peculiarly exemplified by the deductions in reference to small-pox from the New York and Philadelphia mortality bills; but, notwithstanding the great difference between the results in America and in Scotland, in the mortality from this disease, it is important to observe that the proportion of the deaths by this disease in New York exactly corresponds with those for the same age in Philadelphia, the circumstances of these towns, in relation to small-pox, being much alike. The variations in the higher ages may probably depend on causes capable of detection on further inquiry; and such interferences being allowed for the intimate correspondence of the results pointed out, cannot be looked upon as accidental, but as the result of precise laws, which regulate the amount of mortality at every age. Two causes must be especially considered as having a constant tendency to effect a certain variation in these results, viz., medical treatment, and a proper supply of wholesome and nutritive food. Though it appears from these results that the medical practitioner does not possess that indiscriminate command over the life of his patient that has sometimes been ascribed to him, yet it is very apparent that, by judicious treatment, the medical man has much in his power in the way of placing the system of his patient in the most favourable circumstances for resisting the effects of the disease. If the patient, however, has been previously reduced by a scanty or improper diet, it may become difficult, perhaps even impossible, to supply the remedy under such circumstances; therefore it might be apprehended that even greater variations should occur in these proportions than are indicated by the details which have been discussed; but we must bear in mind that the practice of the medical man is not limited to individuals of a particular age, but is extended to whole families; and, in a similar manner, where destitution prevails, it very generally falls upon families at all ages, as well as upon particular persons.

An acquaintance with the laws of mortality which we have now considered will not only aid us in arriving at a true knowledge of the sanitary conditions of towns, and enable us to point out the remedies for excessive mortality, but they will assist, also, in guiding the medical practitioner in the proper treatment of his patient. A knowledge of these laws is also necessary for the construction of proper annuity and life-assurance tables. Any calculations that are wholly founded on the average of life in other countries must necessarily be more or less fallacious, as it is obvious that the average duration of human life must vary with the diseases which are most prevalent in the country; and it is well known that many countries, and even many districts, have diseases more or less peculiar to themselves, and differing in their law of mortality.—*Proceedings of Philosophical Society of Glasgow*, June 3, 1844.

CHEMISTRY.

70. *Liquefaction and Solidification of Gases.*—Dr. Faraday brought forward this subject at the Royal Institution, as the Friday Evening Lecture, Jan. 31.

So long ago as the year 1823, he had been engaged in an endeavour to reduce gases into a fluid state; the means he employed had been to generate the gases in a confined space, and the result had been that he succeeded with the nine following:—Chlorine, hydrochloric acid, sulphurous acid, sulphuretted hydrogen, carbonic acid, euchlorine, nitrous oxide, cyanogen, and ammonia. Since that period the subject has been pursued by others, and a variety of means have been devised to reduce gases to the state of fluid, and further, to solidify some of them. Thus cyanogen and carbonic acid have been rendered solid, and arseniuretted hydrogen, fluid. The means of rendering carbonic acid solid, which may be regarded as the type of the others, as is well known, was devised by Thilorier; and by availing himself of the great cold produced by solid carbonic acid when mixed with ether, together with the air-pump to render the evaporation more rapid, Dr. Faraday has succeeded in reducing to a fluid state the six following gases:—Olifiant gas, phosphuretted hydrogen, hydriodic acid, hydrobromic acid, fluoboron, and fluosilicon; and of rendering solid, sulphurous acid, sulphuretted hydrogen, euchlorine, nitrous oxide, hydriodic acid, and hydrobromic acid.

The method of proceeding, and the principles upon which it is based, are as follow:—The freezing point of mercury is—40°, of carbonic acid,—70°; the cold produced by mixing solid carbonic acid and ether,—105°. By placing the latter under the air-pump the temperature may be reduced to—160°; and Dr. Faraday conceives that by using solid nitrous oxide, instead of carbonic acid, a temperature far lower may be obtained, and by its means, combined with a very high degree of pressure, he thinks oxygen, hydrogen and nitrogen, will certainly be reduced to the fluid or solid state. In fact, he had rendered oxygen fluid, but the enormous pressure had caused the gas to escape through the substance of the metallic stoppers used to close the glass tubes in which the gas was confined. Dr. Faraday had found that common flint glass was quite inadequate tothe purpose, and had substituted green bottle-glass for it, with perfect success. Tubes made of this glass will bear enormous pressure, and if they give way they do not fly into pieces, but rend open in a vertical direction, so as to do no mischief. By connecting a reservoir of gas with a long metallic tube, at the end of which is attached a bent tube of glass, passing into a bath of solid carbonic acid and ether, under the receiver of an air-pump, and by means of a force-pump pressing into this tube the gas with a force equal to about forty or fifty atmospheres, it becomes fluid or solid in the glass tube, which may then be removed and sealed. It is thus, by combining great pressure with the lowest possible degree of cold, that gaseous bodies are reduced to a solid or liquid state; and Dr. Faraday hopes ere long to decide in this way the disputed questions as to the metallic or non-metallic characters of hydrogen and nitrogen.

Some of the results already obtained are highly curious and important in a scientific point of view; thus ammonia in a solid form is a crystalline white substance, heavier than liquid ammonia, and almost inodorous. Oxide of chlorine is a beautiful orange-red crystalline substance. Alcohol becomes thick and viscid, like cold oil, but does not crystallize; and so with caoutchene, oil of turpentine, &c.—*Lancet*, March 1, 1845.

AMERICAN INTELLIGENCE.

ORIGINAL COMMUNICATIONS.

Case of very extensive Suppuration upon the Brain. By G. O. Sumner, M. D., of New Haven.

In the early part of the winter of 1837–38, H. H., of Hartford, Ct., aged 11 years, in learning to skate had a severe fall on the ice, striking the anterior and superior part of the left side of his head. After this, he complained much and frequently of severe pain in his head—and increased heat of the forehead was frequently perceptible. These symptoms continued through the winter. He was employed a good deal, during this period, in setting up the pins at a nine-pin alley in his neighbourhood. This employment obliged him to frequently *stoop low.* A few days defore my first visit to him, he had fallen against the stove; but the hurt from this fall seemed slight.

On Saturday, March 3d, 1838, he was seized, while on the ice, (where he had been but a very short time,) and without any hurt at that time, with *intense pain* in the forepart of the head. He came home, and continued in very great distress, up to Monday, P. M., 5th March, at which time I made him my first visit. He had then intense pain and some delirium; pulse frequent, and rather small; face pale and with an expression denoting great physical anguish; not much fever.

A blister to the back of his neck, and a cathartic of calomel and jalap, were the principal remedies used. Leeches or cups might, no doubt, with great propriety have been resorted to, but the extreme poverty of the family hindered me at this time, and afterwards restricted me in the employment of remedial means.

On Tuesday the boy was delirious, and it was difficult to get a rational word from him, or even to get his attention—he talked almost constantly—tossing of his arms—clawing and picking, &c.

The cathartic had produced one sparing operation—blister had drawn well.

It being difficult to get medicine into his mouth, as also to have it retained by the stomach, I ordered calomel, grs. iij or iv, once in one or two hours, till a free catharsis should be produced; also applied a blister to each temple.

On Wednesday all the symptoms were exacerbated; in fact, the case appearing so hopeless that I did but little. The calomel had been given, and retained, but had not operated on his bowels.

A trait in his delirium was, the *remarkable quickening* of his memory. He would call up and talk about as present realities a multitude of trivial matters, many of which no one would have expected him ever to have thought of again. His friends remarked, that he seemed to have talked over every thing that had occurred within his knowledge during the winter.

During the whole period of his illness, or from his first seizure on the ice up to within an hour or two of his death, his bodily anguish seemed extreme. He did not close his eyes in sleep from the time of my first visit to him till he closed them in the sleep of death.

As above intimated, a state of comparative quietude took place for an hour or two previous to his death, which occurred, just at eve, on Wednesday, 7th of March.

Autopsy.—Present Drs. S. Fuller, Dodge, Holmes, Hawley and myself. *We found the whole surface of the cerebrum, at top, base and sides, in a state of suppuration;* a good deal of purulent matter had been thrown out, and most of it seemed to lie *under* the arachnoid membrane, *confined betwixt it and the substance of the brain.* A portion of it, however, was *exterior* to the arachnoid, loose and floating—and this portion appeared to have been furnished by the juxtaposed surface of both the dura mater and the arachnoid membrane. Of such extent and degree was the suppuration, that it gave to the whole surface of the cerebrum, a decided and pretty uniformly *yellow* appearance—as from a layer of pus betwixt the brain and its investing membranes.

Some little purulent matter was found on the surfaces of the ventricles, and considerable more *water* there than natural. Little or no purulency upon the membranes of the *cerebellum*, or on any part of that viscus. The vessels of the brain, generally, were considerably more turgescent than natural.

Extirpation of a Scirrhous Parotid Gland. By H. H. Wheeler, M. D., of Dundaff, Susquehanna Co., Pa.—J. T. Dimock, of this county, presented himself in October, 1842, with a tumour in the cervical region, extending from anterior to the meatus and six lines above it to the apex of the anterior superior cervical region, or about five inches in length, and two in its transverse diameter. The inferior half presented the common appearances of an adipose tumour, which he said made its first appearance fifteen years previously, but caused no pain or uneasiness until within the last two years, when what now constituted the superior portion, situated under the ear, and behind the maxillary angle, became very painful, with slight increase of size, presenting an irregular, knotty appearance. The size continued to increase until the time I saw him, when the whole united presented the dimensions given above. The evidently scirrhous nature of the glandular portion induced me to recommend an immediate removal of the whole tumour. This was not consented to until December 18th, when the severe lancinating pains, with some constitutional derangement, had increased so much that an immediate extirpation was evidently the only measure that would afford a chance of prolonging life, even for a short time.

The operation was commenced by making two semilunar incisions from the cartilages of the ear to the apex of the superior anterior cervical region, meeting at either extremity, leaving, external to them, integument sufficient for closing the wound after the operation.

From these, the dissection was performed carefully around the irregular surface of the tumour, during which it was found to be so very vascular, that the finger of an assistant was necessary at almost every cut of the knife, to restrain hemorrhage from the divided arteries. This pressure with the fingers, continued for a few moments, was thus far successful without applying ligatures, while the dissection was continued under the lower portion of the tumour, dividing in succession the strong musculo-cellular attachments of the diseased mass to the surrounding parts, until the external carotid artery was seen passing into its base.

Around this two ligatures were passed, the artery divided between them, and the removal of the tumour finished by continuing to detach it from the anterior edge of the sterno-mastoid muscle, mastoid process, cartilage of the ear, angle of the jaw, and pterygoid muscles. After securing by ligature another vessel that was seen bleeding freely from behind the angle of the inferior maxillary bone, near the styloid process, deep in the wound was to be seen, laid bare, the ligaments of the inferior maxillary articulation, the cartilage of the ear, mastoid process, sterno-mastoid, digastric, and one of the pterygoid muscles.

In the bottom was the internal carotid artery uninjured, and the ligated extremity of the external one.

The paralysis of the face, as far as the median line, proved the division of the portia dura, where it passes through the parotid gland. The wound, after being freed from blood, was closed with two sutures and adhesive straps, so as to present the appearance, externally, of a straight incision five inches in length. The loss of blood during the operation was considerable, (two lbs. or more), owing to the great number of branches of the external carotid that were distributed through and around the tumour in all directions, which it was impossible to avoid. The upper half of the wound closed by the first intention, the remainder healed rapidly; ligatures came off on the tenth day; on the sixteenth, the wound was quite closed.

The above operation was performed with the assistance and in presence of Drs. Graves, Wright, Harmes and Burr, of adjoining counties.

The fact of the total extirpation of the gland is satisfactorily shown by the structure of the diseased mass itself, as well as the appearance of the wound after it was removed.

DOMESTIC SUMMARY.

Rupture of the Uterus, followed by Utero-intestinal Fistula.—Dr. Wm. N. Morgan, of Germantown, Tenn., relates in the *Western Journ. of Med. and Surg.* (Dec., 1844.) a very remarkable case of this kind, the prominent particulars of which are as follows:—

A coloured woman who had had five children, was seized 20 Dec. 1841, with severe labour pains, and the membranes were very early ruptured. She remained in this situation, with excruciating pains for about 26 hours, attended by a midwife. A physician was then called in, who found a shoulder presentation, the arm having descended and the child low down in the pelvis, firmly grasped by the uterus and the pains still very severe. He bled her freely and gave an anodyne, after which the pains diminished, and he was able to turn and deliver by the feet, though with much difficulty.

After her delivery she seemed as well as usual, except that she was troubled with costiveness, which had existed some seven or eight days previous to parturition.

Thirty-six hours after delivery Dr. M. was called to see her, and found her labouring under obstinate constipation of the bowels, though she had taken 9 or 10 ounces of castor oil, and stimulating enemas had been freely used. With this, great soreness of the abdomen existed, accompanied by extreme distension from the lower portion of the sternum to the pubis; her tongue was furred; pulse 120 a minute. The purgatives employed having accomplished nothing, Dr. M. ordered ol. ricini ℥ij, ol. tiglii gtt. ii, to be administered forthwith, and a blister plaster to be applied to the abdomen.

By persevering in the use of these cathartics, calomel, gamboge, &c., aided by enemas, her bowels were evacuated in four days, after having been inactive ten or twelve.

From this period, there was an abatement of all the alarming symptoms, attended with an evident improvement of the system in general, though the uterus remained above its natural situation, much hardened, rather enlarged, and extremely painful on pressure. She continued to improve slowly for about ten days. At the expiration of this time, she was suddenly and violently attacked with uterine hemorrhage, attended with great relaxation of the womb, and prostration of the vital energies.

Dr. M. was again called in haste to see her, and found her in the condition above described. The hemorrhage yielded to the use of the acetate of lead, opium and ipecacuan., assisted by frictions over the abdomen, and also by astringent injections *per vaginam*.

So soon as she recovered from the prostrating effects of hemorrhage, she again began to improve as before, with regular discharges from her bowels, and a slight inclination to diarrhœa, which, however, was easily controlled by the use of calomel and opium. She remained in this condition for seven days after the flooding ceased, making about eighteen from the period of her confinement, when Dr. M. was greatly surprised to learn that she was discharging fæcal matter through the vagina, and none in the natural way. He immediately proceeded to an examination, expecting to find a communication between the rectum and vagina; but finding no rupture there, pushed his examination further. About the left fundus of the uterus the patient had complained much of soreness, and on pushing the fingers into that region a large collection of fæcal matter was discovered. A syringe being introduced, several ounces of fluid fæces were removed. She continued to void her fæces involuntarily by the vagina thirty days, during which time she experienced rapid emaciation. About the last of January a favourable change took place. The evacuation of fæcal matter through the uterus ceased, and she began gradually to improve in health and strength, suffering occasionally from pain about the point of the rupture, and being troubled with œdema of the face, feet, and hands.

It is now about three years since this case occurred. The patient has enjoyed tolerable health since the time above mentioned, with the exception of occasional colic pains in the region of the colon, irregular menstruation, and slight diarrhœa. At times she complains of soreness to the left of the umbilicus, at the point where the rupture occurred. She has had frequent communications with her husband, and enjoys the connection as before, but has not conceived, although she bred rapidly before this accident occurred.

On her recovery from this state of things, when not under the influence of cathartics, her fæces are of the natural shape and colour; the action of her bowels is easily induced, and without more pain than is common under the ordinary operation of cathartics. During the time that her fæces were passing *per vaginam*, the only medicines that were given were tonics, with an occasional dose of morphine.

Sanitary condition of Philadelphia.—To those acquainted with the beautiful city of Penn, its wide and well-drained streets, proverbial for their cleanliness, numerous open squares, filled with luxuriant shady trees, gravel walks and fountains, the following picture of its wretchedness will appear not a little surprising. In a long article "*On the best modes of representing accurately, by Statistical Returns, the Duration of Life, and the Pressure and Progress of the Causes of Mortality amongst the different Classes of the community, and amongst Populations of different districts and countries*, by Edwin Chadwick, Esq., F. R. S., (read before the Statistical Society of London, Dec. 18, 1843), and published in the *Journal of the Statistical Society*, for April, 1844, is the following statement:

"I have been favoured with a table of the mortality at the different ages of life in Philadelphia, from the year 1830 to 1842 inclusive, from the Board of Health of that city. Travellers misled by the fallacious assumption of the proportions of death to the population (a fallacy exemplified in the table itself) which have ranged from 1 in 33 to 1 in 47, have represented this as a healthy city. It was formerly excessively ravaged by fevers. It has been greatly improved by the introduction of water, and the mortality has been diminished; but it is ill drained. It is situated like the worst town districts in England amidst privies and cesspools, and in other respects its sanitary condition is inferior. In summer the heat is intense, decomposition active, and there is an excessively severe mortality. The infantile mortality appears to be as great as in the lowest districts of Dublin. It will be seen in the subjoined table that 50 per cent.—half who are born—die on the average before the fifth year of age. On the proposed hypothetical modes of preparing life tables, the expectation of life in that city to all born would be only 5 years; but the actual mean of existence is 20 years and 7 months to all who die.

Mr. Chadwick asserts "that 50 per cent.—half who are born, die on the average before the 5th year of age." Now, the number of births registered in Philadelphia in 1830, a year referred to by him, was 7628. The total mortality under the 5th year, including 303 still-born, was 2217; leaving a balance of 5411, instead of 2217, the number which should remain, to bear out his assertion. The table prepared by him, which professes to show the mortality in Philadelphia for different years from 1830 to 1843, inclusive, is very far from presenting accurate results. The error in relation to the proportion of deaths in infancy to the births, is not the only one connected with that year. In his table, the deaths under one year of age, is set down at 1305. This embraces 302 still-born, which should always be excluded from such statements, as their retention tends to increase the proportion of deaths to the population in which they have never been enumerated. He accordingly reckons the deaths at 1 in 40 of the inhabitants, whereas a more correct computation makes the ratio of general mortality 1 in 45.4.

This may be regarded a low rate of mortality when it is considered that Philadelphia contains a large coloured population, the proportion of deaths among which is about 2 to 1 of the whites.

These errors, connected with the computation for only one year of the series of 14 years, must, we think, be sufficient to cause the statements exhibited by Mr. Chadwick in regard to the "pressure and progress of the causes of mortality," so far as Philadelphia is concerned, to be taken with great allowance.

It will not be denied that the infantile mortality in Philadelphia is fearfully great. But, it is perfectly understood by those having the best opportunities of knowing, that the causes operating so unfavourably, are comparatively rare within the city proper, and better portions of the adjoining districts, where the pavements are good and well regulated so as to favour thorough drainage by gutters and sewers. The badly drained and unpaved places, to be met with in the outskirts and some portions of the adjoining districts, where the poorer class of labourers, and especially the blacks, congregate in small and badly-aired dwellings, furnish by far the largest proportion of the annual mortality, both general and infantile, the latter especially.

Spontaneous Rupture of the Spleen.—A case of this rare occurrence has recently been related by Dr. J. B. Potter, M. D., of Canal Winchester, Ohio, in the *Western Lancet* for January, 1845.

The subject of the case was a man 35 years of age, of good habits, who had enjoyed uninterrupted health with the exception of five or six paroxysms of intermittent fever, about 12 months previously.

On the 16th July, 1844, he was attacked with slight fever, and malaise, but not sufficient to confine him entirely to his room; continued in this condition, until the morning of the 20th, when he remarked he would be able to resume his labour by the 22d; appetite, which had previously during his illness been poor, good; ate freely of "soup." About 3 P. M., complained of severe pain in the "stomach and belly," followed in a few minutes with vomiting of the contents of the stomach, immediately after which he said his "belly would burst," and that he was dying. Expired at 5 P. M.

On post mortem examination, "about half a gallon of venous coagula was found, which proceeded from a rupture about 1½ inches long, on the inferior portion of the capsule of the spleen, the parenchymatous structure of the spleen was entirely broken down and destroyed, constituting a grumous mass, so soft as to be easily washed away; stomach and bowels normal, liver slightly enlarged and congested."

[A case of a similar character is recorded by Dr. Neill in the number of this Journal for October, 1842.—See p. 369.]

Bleeding internal Hemorrhoides.—Dr. John Watson, in an interesting paper in the *New York Journal of Medicine*, (July, 1844,) on Hemorrhoides and Prolapsus ani, states that he has found more benefit for bleeding internal hemorrhoides, in the use of injections of acetate of lead, than in any other form of local application. He commonly employs this of the strength of a drachm to eight ounces of rain water, and never administers over two ounces of this solution at a time. He repeats the injection after each return of hemorrhage; and, as this most commonly occurs during the effort to evacuate the bowels, he commonly advises the patient to resort to the injection immediately after every stool, until the hemorrhage has ceased for a few days. The usual internal medicines are, the occasional administration of a blue pill, especially where there is reason to suspect any disturbance in the functions of the liver; a dose of oil, or of the extract of taraxicum; or some other mild laxative. But, for the mere evacuation of the bowels, and with the view of correcting an obstinately-constipated habit, he knows of no article better than one or the other of the following confections.

First.—	Common Rosin, well pulverized,	℥i.	
	Clarified Honey,	℥v.	M.
Second.—	Common Rosin, as before,	℥i.	
	Balsam of Copaiva,	℥ss.	
	Clarified Honey,	℥ivss.	M.

The last of these, when it can be borne, is, Dr. W. says, the most efficacious. But to many persons, and particularly delicate females, the balsam is so nauseous that they are unable to use it. The ordinary dose is from two to three drachms at bed-time. This dose is generally sufficent to produce one soft and consistent stool early on the following morning, without griping, uneasiness, or any of the usually disagreeable attendants of cathartic medicine. These measures are to be assisted by the occasional use of the hip-bath; by cooling, anodyne, and emollient clysters; by a course of regimen most suitable to keep the bowels regular, without, however, stimulating them; and above all, by carefully and gently reducing the prolapsus, after every evacuation of the bowels, and guarding against all movement likely to protrude it in the intervals.

Abortion—the Umbilical Cord wound tightly around the leg of the Fœtus. (*New York Journ. Med.*, Jan., 1845.)—Dr. Griscom reported the following case to the New York Medical and Surgical Society:—"A highly respectable and intelligent lady became *enceinte*, as she supposed, about eight months ago. The menses disappeared; the breasts became distended with milk, and continued so until the 18th inst. She, however, required my attendance occasionally, on account of irregular uterine hemorrhage, unaccompanied with pain. She was otherwise in excellent health. Last week she received information of the sudden loss of a friend, which caused her great grief; this induced severe pain in the uterine region, at first intermittent. The uterine tumour seemed about the size of my fist. In a few hours the pain became uninterrupted and excessive, and after a time, an ovum was expelled rather larger than a goose egg. It was found to contain a well-formed fœtus of *three or four months.* On examining it, I found the umbilical cord, which was longer than usual, wound around the leg, nearly a dozen times, as closely as thread upon a spool It required as much force as I thought the cord would bear to unwind it."

The cause of death of the fœtus Dr. G. conceives to have been produced by compression of the cord—"as the limb grew, the cord became compressed, and eventually the circulation through it suspended."

Exsection of Inferior Maxillary Bone. (*New York Journ. Med.*, Jan., 1845.)—This operation has lately been performed by Dr. Mott on a young man, affected with periosteal disease of the inferior maxilla. "As a preliminary step, the common carotid of the right side was secured, immediately after which, as the patient seemed in no way prostrated, it was deemed advisable to continue, and with the curvilinear incision the operation commenced, and throughout its entire steps gave the utmost satisfaction to all who were present. The exsection was made from the second incisor tooth to the temporo-maxillary articulation; the parts were then drawn together by sutures, and the patient was placed in bed, where he soon fell into a profound sleep."

A month after the operation the patient was doing remarkably well.

Western Penitentiary of Pennsylvania.—The report of the Inspectors of this Institution for the year 1844, with the accompanying documents, afford a very favourable account of its condition, and furnish some views in relation to the Pennsylvania system of prison discipline worthy of attention.

The Inspectors in their report remark,

"In presenting our annual report to the legislature, we again congratulate you upon the complete success attending the Pennsylvania system of prison discipline. Fiercely attacked as it has been, upon the gratuitous asssumption, that it partook more of the barbarism of former ages than the mild and benevolent usages of modern Christendom, an experience of twenty years has proved the fallacy of these philippics, and illustrated its benefits and tested its results.

"An associate system of labour never can be conducive to reformation. The noviciate can never be improved by intercourse with the hardened convict; and although they may both be watched with untiring vigilance by discreet overseers, yet the practised criminal will communicate his baneful vices, by more than sympathetic influence, to the tender and susceptible mind of the youthful offender.

"It is true that, under the separate system, the criminal has no communication, other than that which he enjoys with the officers and inspectors of the Penitentiary, but this very seclusion brings his mind to the contemplation of his former misdeeds, which is the first step towards a genuine amendment of life. The interviews of the officers with the convicts are conducted with firmness and kindness, and with exhortations to reform, that they may be restored to that position in society which they would have occupied had they not been guilty of a violation of its laws. In all our visits, we have scarcely found an unwilling listener to these admonitions, and the able and elaborate Report of the Moral Instructor, to which we, with great pleasure refer, will advise you in detail of the gratifying success of the treatment adopted by your predecessors of the General Assembly.

"We can cite instances, within our present observation, of men who entered this Penitentiary without a trade, and with little or no education, who are now moral and respectable members of the community in which they live, pursuing their avocations with an ardour and industry evincive of their gratitude to this public benefaction."

The moral instructor in his report observes,

"The most serious objection brought against the system of 'separate confinement' by its opponents, is laid in its reputed tendency to produce insanity. If such, indeed, be its tendency, the history of this prison presents a singular exception to this influence. Amongst the one hundred and thirty prisoners now incarcerated within its walls, there is but a single case of insanity, and this one is supposed to have been slightly deranged at the time of his first imprisonment; and during the eight years it has been under the supervision and control of the present Warden, there have occurred but two cases of mental derangement. It is passing strange that *here*, among seven or eight hundred prisoners, and during the long period of eight years, there should have been found but two instances of insanity, if the native tendency of solitary confinement is to produce it. Other causes must have operated to produce this fearful malady, where, as in the instance of the Rhode Island state prison, out of forty cases in solitary confinement, ten have become insane; and under the congregated system three out of nineteen have exhibited symptoms of mental derangement. Under mild, affectionate and firm administratron of government, such as distinguishes the present chief executive officer of this institution, supported by competent and kind overseers, there is no danger of insanity resulting from separate confinement. The facts in the case of this prison, for a series of years, prove conclusively that there is none."

Dr. Barton's Operation for the Anchylosis of the Knee-joint.—This operation,—consisting in the removal of a wedge-shaped portion of bone,—has been recently performed by Dr. G. Buck on a patient in the New York Hospital. The anchylosis resulted from a wound with an axe seven years previously. The leg was united to the thigh at a right angle.

University of Pennsylvania.—From the catalogue of this institution, recently published, we learn that the whole number of students is 790, of which number there are in the Collegiate Department, 120; in the Medical Department, 446; Academical Department, 136; and in the Charity, (English Schools,) 88.

New Works.—Messrs. Lea & Blanchard have recently published the following valuable works:—

The Principles of Surgery, by James Miller, Professor of Surgery in the University of Edinburgh, in one volume, octavo.

Ashwell on the Diseases peculiar to Women, edited by P. B. Goddard, M. D., and complete in one octavo volume.

Meigs' Translation of Colombat de l'Isère on the Diseases of Females, in one large octavo volume.

Sir Astley Cooper on the Anatomy and Diseases of the Testis and Thymus Gland. In one large royal octavo volume, with numerous lithographic plates.

Works preparing for Publication.—Messrs. Lea & Blanchard have in press and will issue very shortly

Esquirol's Great Work on Mental Maladies, translated by Dr. E. K. Hunt, of Hartford.

Sir Astley Cooper's works on the Anatomy and Diseases of the Breast, with numerous plates.

Guthrie on the Diseases of the Bladder and Urethra, and

Fowne's Manual of Chemistry.

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